

PREPARERS

Interdisciplinary Team

The following is a listing of the Interdisciplinary Team members. These are the current members of the core group and other primary participants. Information regarding qualifications (education and experience) and involvement in the preparation of the Forest Planning Documents is included.

Kenneth Adee, GIS Coordinator

Education: B.A. Philosophy; M.F. Forestry; Post graduate studies in Quantitative Ecology.

Experience: 14 years with Forest Service as Research Forester; Sale Preparation Forester; Planning Team's applications programmer; developed the software for the PLOT-7 mapping system.

Role: Provided GIS analysis of vegetative inventory and old growth acreage estimates.

Rolf Anderson, Planning and Programming Staff Officer

Education: B.S. Forest Management/Forestry; M.S. Management.

Experience: 32 years with Forest Service as Timber Management Assistant; Oregon Dunes NRS Ranger Program Analyst; Planning Staff Officer.

Role: Managed the overall Willamette N.F. land and resource management program since 1981.

Norm Barrett, Assistant Biologist

Education: B.A. Botany/Zoology; B.S. Wildlife Biology.

Experience: 9 years with Forest Service as wildlife biologist and technician.

Role: Assisted in the analysis of wildlife data and documentation.

Margaret Beilharz, Hydrologist

Education: B.S. Ecosystems Analysis.

Experience: 12 years with Forest Service in Silviculture; District Hydrologist; Assistant Forest Hydrologist.

Role: Adapted analysis methodology for water and soil resources. Provided evaluation of water quality, soil productivity effects.

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Elaine Bernat, Cartographic/Planning Technician

Education: B.A. Art; B.L.A./M.L.A. Landscape Architecture.

Experience: 10 years in landscape architecture, graphics, and mapping systems. Assisted in the preparation of the Willamette National Forest 1979/80 viewshed study. Assisted in the development of the data base graphics production and computer maps for use in the DEIS and Forest Plan since 1981.

Role: Assisted in the data management of mapping systems used for Forest Plan documents. Provided graphics support for final documents.

Sara Buckmaster, Transportation Planner

Education: B.S.C.E., Graduate Study in Forest Engineering.

Experience: 10 years with Forest Service as Civil Engineer; Forest Transportation Planner.

Role: Provided technical input as transportation system and effects.

Brad Burmark, Supervisory Operations Research Analyst

Education: B.S. Forest and Range Management, M.S. Forest and Range Management.

Experience: 10 years with Forest Service as Operations Research Analyst, Supervisory Operations Research Analyst. Provided economic analysis and budgets for FEIS and Forest Plan.

Role: Overall coordination of FORPLAN, Implan, and GIS input to planning process.

Peter Eberhardt, Cartographic/Planning Technician

Education: B.S. Geography 1981.

Experience: 8 years with Forest Service as Resource Data Manager (development of the PLOT-7 mapping system).

Role: Managed mapping system and Forest database used to develop the Forest Plan and analysis of alternatives. Coordination production of Forest Plan maps.

Neal Forrester, Strategic Planner

Education: B.S.F., Forest Management; M.S., Forest Management.

Experience: 15 years with Forest Service as Timber Sale Administrator, Silviculturist, Timber Planner, and Planning Team Leader.

Role: Interdisciplinary Team Leader, provided overall leadership and coordination in the development and preparation of the Forest Plan documents.

Miles Hemstrom, Area VI Ecologist

Education: B.A. Biology; Ph.D. Plant Ecology.

Experience: 10 years with Forest Service as Area Ecologist on Willamette and Siuslaw NFs.

Role: Provided input on analysis of vegetative data for old growth determinations and effects of alternatives on ecological systems.

David Hicks, Writer/Editor

Education: B.S. Forest Management/Forestry.

Experience: 20 years with Forest Service in Timber Management, Planning, and Land Management Planning.

Role: Developed analysis of resource effects on roadless areas in Appendix C of FEIS.

Dave Hill, Planning Records Coordinator

Education: B.A.; J.D.

Experience: 10 years with Forest Service as Law Clerk and Land Law Examiner; Personnel Management Specialist; Claims Specialist; Supervisory Program Analyst.

Role: Assisted in documentation of public comments and responses in FEIS. Responsible for planning records systems.

Al Johnson, Forester

Education: B.S. Forest Management.

Experience: 12 years with Forest Service and Bureau of Land Management in land management planning, timber sale preparation and administration, and hydrology.

Role: Provided technical support for resource data computer analysis, assisted in documentation of water and soil resources.

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Charlene R. Johnson, Editorial Assistant and Document Coordination

Education: College course work in office skills, technical document editing, and computer systems.

Experience: 11 years with Forest Service in timber data processing and editing technical documents.

23 years in private industry as bookkeeper, office manager, secretary.

Role: Coordinated document preparation and editing for FEIS.

Robert Longcore, Landscape Architect

Education: B.S. Landscape Architecture; M.L.A. Landscape Architecture.

Experience: 20 years as Landscape Architect; 4 years Assistant Professor, School of Environmental Design; 16 years with Forest Service in landscape design and recreation management.

Role: Provide overall input for recreation, visual management and in Forest Planning process. Coordinated input for Wilderness, roadless areas; Wild and Scenic Rivers, and cultural resources for FEIS.

James Mayo, Timber Planner

Education: B.S. Forest Management/Forestry.

Experience: 16 years with Forest Service as Presale, Silviculture, and Planning Forester; Timber Planning Assistant.

Role: Adopted methods for timber yields and inventory in Forest Plan modeling. Provided analysis of timber program and vegetation effects in Forest Plan documents.

Allison Reger, Operations Research Analyst

Education: B.S. Forest Management/Forestry; M.S. Multiresource Management.

Experience: 2 years with Forest Service as operations research analyst.

Role: Assisted in developing and evaluating FORPLAN model. Used Implan to develop economic inputs used in FEIS.

Patti Rodgers, Public Affairs Specialists

Education: Undergraduate work in Fine Arts and Sociology; Social Psychology.

Experience: 20 years with Forest Service in Fire, Timber, Silviculture positions including activities at District and Forest levels.

Role: Coordinated content analysis of public comments on DEIS, produced newsletters for public updates during development of the Forest Plan.

Mike Scanlon, Operations Research Analyst

Education: B.S. Forest Management; M.S. Forest Economics.

Experience: 6 years with Forest Service in fire/fuels management and silviculture. 3 years as Operations Research Analyst.

Role: Responsible for developing and running FORPLAN model for analysis displayed in FEIS.

Steven P. Smith, Wildlife Biologist

Education: B.S. Science and Range Management.

Experience: 10 years with Forest Service as wildlife biologist.

Role: Adapted methods for analyzing wildlife resource evaluations in the FEIS including big game, Threatened and Endangered Species, and spotted owl.

Gerald W. Williams, Sociologist

Education: B.S. Sociology; M.S. General Studies Social Science; Ph.D Sociology.

Experience: 11 years with Forest Service as Sociologist. Involvement in the planning process includes the analysis of social-economic values.

Role: Provided analysis of social effects in FEIS.

FOREST MANAGEMENT TEAM

Forest Supervisor - Michael A. Kerrick

Deputy Forest Supervisor - Mike Edrington

District Rangers

Lynn Burditt - Blue River
David F. Alexander - Detroit
Rick Scott - Lowell
Randy A. Dunbar - McKenzie
Robert Barstad - Oakridge
Herbert L. Wick - Rigdon
Karen Barnette - Sweet Home

Forest Staff Officers

Rolf Anderson - Planning and Programming
Gloria Brown - Public Affairs
Richard Grace - Recreation
Hank Kashdan - Administration
Harold Legard - Watershed/Soil/Range/Wildlife
Bob Leonard - Timber Management
James Mattiazzi - Engineering
Eurial Turner - Fire and Lands

Other Contributors To FEIS

Mary Bowdon - Writer/Editor
Mandy Cole - Writer/Editor
Joan Cully - Document Preparation
Carl Davis - Cultural Resources
Karen Engelhardt - Graphics Assistance
Reino Jarvi - Document Preparation
Daryl Larson - Computer Assistant
Sue Leatherwood - Document Preparation
Hubert Mapes - Fire/Fuels Management
Roy McNary - Computer Assistant
David O'Guinn - Writer/Editor, Document Production
Mike Ragan - Map production
Susan Sater - Wilderness Management
Del Skeesick - Fisheries Biologist

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GLOSSARY

Many of the definitions in this glossary are referenced to the following sources. The sources are identified by a number in parentheses following the definition. This number corresponds to the list below. Some other terms will be referenced to Forest Service Manuals (FSM), Forest Service Handbooks (FSH), or other sources which are too numerous to list. Finally, many other definitions are not referenced, but are those in general use on the Forest.

SOURCE LIST

- (1) 36 CFR 219 National Forest Management Act Regulations.
- (2) Regional Guide for the Pacific Northwest Region, 1984.
- (3) SAF Dictionary of Forestry Terms, 1971.
- (4) The Random House College Dictionary, Revised Edition, 1975.
- (5) Webster's New International Dictionary, 1957.
- (6) Wildland Planning Glossary, 1976.
- (7) Webster's Third New International Dictionary, 1981.
- (8) Wildlife Habitats in Managed Forests, The Blue Mountains of Oregon and Washington, 1979.
- (9) A Glossary of Terms Used in Range Management.
- (10) Forest Service Manual or Forest Service Handbook.

A

Abnormally heavy storms - Storms with a 10- to 100-year return period. That is, a 10-year storm occurs on the average of once every 10 years, a 20-year storm occurs on the average of once every 20 years, and so forth.

Access - Usually refers to a road or trail route over which a public agency claims a right-of-way for public use; a way of approach. (4)

Acquired lands - Lands added to the National Forest system by purchase, transfer, or donation under authority of the Weeks Law or related acts. Also, lands obtained by the Forest Service by exchange for other acquired lands.

Acre equivalent - When applied to habitat improvement or improvement structures, this term reflects overall habitat benefits derived. It reflects the zone of influence of the habitat improvement for the target species. For example, a single water development for upland game birds occupies very little space but has an acre equivalent of 160 because it serves 160 acres of bird habitat. A single water structure for big game has a value of 640 because it has a larger zone of influence for the more mobile big-game animals.

Acre-foot - A measure of water or sediment volume, equal to the amount which would cover an area of one acre to a depth of one foot (i.e., 43,560 cubic feet or 325,851 gallons). (6)

Activity - An action, measure or treatment undertaken that directly or indirectly produces, enhances, or maintains forest and rangeland outputs, or achieves administrative or environmental quality objectives (FSM 1309, Management Information Handbook). An activity can generate multiple outputs. (2)

Activity fuels - Fuels generated or altered by a management activity. (10)

Administrative unit - An area under the administration of one line officer, such as a District Ranger, Forest Supervisor, or Regional Forester. (6)

Age class - An interval, usually 10 to 20 years, into which the age ranges of vegetation are divided for classification or use. (3)

Age group distribution - Age class distribution; the location and/or proportionate representation of different age classes in a forest. (3)

Airshed - A geographic area that, because of topography, meteorology, and climate, shares the same air. (2)

Allocation - See *Land use allocation* or *Resource allocation*.

Allotment - See *Range allotment*.

Allowable sale quantity (ASQ) - The quantity of timber that may be sold, from the area of suitable land covered by the Forest Plan, for a time period specified by the Plan. This quantity is usually expressed on an annual basis as the "average annual allowable sale quantity." (6) (1)

All terrain vehicle (ATV) - A vehicle characterized by its ability to negotiate most kinds of terrain, by virtue of traction devices such as wide tracks, large, low-pressure rubber tires and/or four-wheel drive.

Alternative - One of several policies, plans, or projects proposed for decision making. (2) (10)

Amenity - An object, feature, quality, or experience that gives pleasure or is pleasing to the mind or senses. The terms "amenity values" or "amenity resources" are typically used in land management planning to describe those resources for which monetary values are not or cannot be established (such as clean air and water, or scenic quality).

Anadromous Fish - Those species of fish that mature in the sea and migrate into streams to spawn. Salmon, steelhead, and searun cutthroat trout are examples.

Analysis area - A delineated area of land subject to analysis of: (1) responses to proposed management practices in the production, enhancement, or maintenance of forest and rangeland outputs and environmental quality objectives, and (2) economic and social impacts. (FSM 1905) Tracts of land with relatively homogeneous characteristics in terms of the outputs and effects that are being analyzed in the FORPLAN model. (SEIS Appendix B, Section entitled Analysis Areas)

Analysis of the Management Situation (AMS) - A determination of the ability of the planning area to supply goods and services in response to society's demand for those goods and services. (1)

Animal Unit Month (AUM) - The amount of forage required by one mature (1,000 lb.) cow or its equivalent for one month (based upon average forage consumption of 26 lbs. dry matter per day). (6)

Animal Month is one month's use and occupancy of the range by one animal. For grazing fee purposes, it is a month's use and occupancy of range by one weaned or adult cow with or without calf, bull, steer, heifer, horse, burro, or mule, or 5 sheep or goats. Forage consumption by other animals is converted to AUM's from animal months by the following factors:

mature cow	=	1.0 AUM	mature sheep	=	.2 AUM
one horse	=	1.2 AUM's	cow/calf	=	1.32 AUM
ewe/lamb	=	.3 AUM			

Annual sale quantity - The quantity of timber that may be sold annually from the area of suitable land covered by the Forest Plan.

Anomalies - A deviation from the common rule, type, or form. An incongruity or inconsistency. (4)

Appropriated Funds - Monies authorized by an act of Congress which permit Federal agencies to incur obligations and to make payments out of the U.S. Treasury for specified purposes.

Aquatic ecosystems - Stream channels, lakes, marshes or ponds, and the plant and animal communities they support.

Aquifer - A geological formation or structure that contains water in sufficient quantity to supply needs for water development. (6)

Artifact - An object made or modified by humans. (4)

Assigned values - Monetary values given to nonmarket resources, based on estimates from comparable market transactions. For example, the benefits of dispersed recreation are given assigned monetary values for their production.

Available forest land - Land which has not been legislatively or administratively withdrawn by the Secretary of Agriculture or Forest Service Chief from timber production.

Average Daily Traffic (ADT) - The average 24-hour volume of traffic, being the total volume of traffic during a stated period divided by the number of days in that period. (6)

B

Background - In visual management terminology, refers to the visible terrain beyond the foreground and middleground where individual trees are not visible, but are blended into the total fabric of the stand. Also a portion of a view beyond three to five miles from the observer, and as far as the eye can detect objects. (6)

Bald Eagle Management Areas (BEMA's) - Areas managed for the protection of the threatened and endangered bald eagle. BEMA's provide nesting and roosting habitat for the bird on each plot.

Basal area - The area of the cross-section of a tree stem near the base, generally at breast height and inclusive of bark. (3)

Base sale schedule - A timber sale schedule formulated on the basis that the quantity of timber planned for sale and harvest for any future decade is equal to or greater than the planned sale and harvest for the preceding decade, and this planned sale and harvest for any decade is not greater than the long-term sustained yield capacity. (This definition expresses the principle of nondeclining flow.) (1)

Basic resource - One of the principal resources; a resource upon which the production of other resources is dependent; e.g., the production of vegetation is dependent upon basic resources such as soils and water.

Benchmark - The analytical basis from which the alternatives were developed. The use of assessed land capability as a basis from which to estimate the effects of alternative patterns of management on the land. (6)

Benchmark - Reference points that define the bounds within which feasible management alternatives can be developed. Benchmarks may be defined by resource output or economic measures.

Benefit (Value) - Inclusive terms used to quantify the results of a proposed activity, project or program expressed in monetary or nonmonetary terms. (10) Also:

1. *Direct benefit.* A primary benefit that responds to specified objectives of the policy, program, project, or expenditure. (10)
2. *Induced benefit.* A primary benefit that is incidental to the objectives of the policy, program, project, or expenditure. (10)
3. *Primary benefit.* A benefit accruing to resource owners from a primary output and that may be direct or induced or may be a residual asset. Primary benefits are components of net public benefits. (10)
4. *Secondary benefit.* A benefit accruing to parties other than the resource owners, including effects on local, Regional, and national economies and on consumers of outputs. Secondary benefits are not necessarily included in net public benefits. (10)

Benefit/Cost ratio - A measure of economic efficiency computed by dividing total discounted primary benefits by total discounted economic costs. (10)

Best Management Practices - A practice or combination of practices that is determined by a State (or designated areawide planning agency) after problem assessment, examination of alternative practices, and appropriate public participation, to be the most effective, practicable (including technological, economic, and institutional considerations) means of preventing or reducing the amount of pollution generated by nonpoint sources to a level compatible with water quality goals (Federal Register, Volume 40, No. 230 dated 11/28/75).

Big game - Large mammals hunted for sport. On the National Forest these include animals such as deer, elk, antelope, and bear. (8)

Big game summer range - A range, usually at higher elevation, used by deer and elk during the summer. Summer ranges are usually much more extensive than winter ranges. (8)

Big game winter range - A range, usually at lower elevation, used by migratory deer and elk during the winter months; usually more clearly defined and smaller than summer ranges. (8)

Biological control - A method to control insect populations or tree diseases through the use of applied technology. Also used in noxious plant control. (3)

Biological Growth Potential - The average net growth attainable in a fully stocked natural forest stand. (1)

Biological potential - The maximum production of a selected organism that can be attained under optimum management. (8)

Biomass - The total quantity (at a given time) of living organisms of one or more species per unit of space (species biomass), or of all the species in a biotic community (community biomass).

Board foot (BF) - The amount of wood equivalent to a piece of wood one foot by one foot by one inch thick. (3)

Board foot/cubic foot conversion ratio - Both board foot and cubic foot volumes can be determined for timber stands. The number of board feet per cubic foot of volume varies with tree species, diameter, height, and form factors. A specific factor by species is applied to the cubic foot FORPLAN outputs to give board foot estimates.

Broadcast Burn - Allowing a prescribed fire to burn over a designated area within well-defined boundaries for reduction of fuel hazard or as a silvicultural treatment, or both.

Browse - Twigs, leaves, and young shoots of trees and shrubs on which animals feed; in particular, those shrubs which are used by big game animals for food. (6)

Brush - A growth of shrubs or small trees usually of a type undesirable to livestock or timber management.

Bureau of Land Management (BLM) - An agency within the Department of the Interior, with land management responsibility for the Public Domain lands.

Buyback and Defaulted Timber Sales - In 1984, the Federal Timber Payment Modification Act was enacted by Congress. It allowed private companies to return timber sales not economical to harvest after payment of a fee to the government. The sales returned under the conditions of this Act are

known as "buyback" sales. A timber sale is considered "defaulted" if it is not in compliance with the terms of the contract by the contract termination date. Defaulted sales are also returned to the government.

C

Cable logging - Refers to methods used to skid or pull logs to a central landing or collection area by a cable connected to a remote power source. (6)

Canopy - The more-or-less continuous cover of branches and foliage formed collectively by the crown of adjacent trees and other woody growth. (3)

Capability - The potential of an area of land to produce resources, supply goods and services, and allow resource uses under an assumed set of management practices and at given levels of management intensity. Capability depends upon current conditions and site conditions such as climate, slope, landform, soils and geology, as well as the application of management practices, such as silviculture or protection from fire, insects, and disease. (1)

Capability area - Geographic delineations used to describe characteristics of the land and resources in integrated forest planning. Capability areas may be synonymous with ecological land units, ecosystems, or land response units. (10)

Capital formation - As used in IMPLAN is defined as the value of purchases from sectors both inside and outside the Region used by individuals, governments, and industries in the area as investment (land, plant, and equipment used in production processes). (10)

Capital Investment - An input that increases the stock of natural or manmade resources (assets) needed to maintain or increase the flow of outputs in the future. Benefits resulting from capital investments are normally recouped in excess of 1 year. (10)

Capital investment - Activities that create or improve capital assets to obtain benefits occurring during several planning periods. (10)

Carrying capacity - 1) The number of organisms of a given species and quality that can survive in, without causing deterioration of, a given ecosystem through the least favorable environmental conditions that occur within a stated interval of time. 2) In recreation, refers to the number of people that can occupy an area for a given social and experience goal. 3) In range, refers to the maximum stocking rate possible on a given range without causing deterioration to vegetation or related resources. (3)

Cavity - The hollow excavated in trees by birds or other natural phenomena; used for roosting and reproduction by many birds and mammals. (2)

Channel or Stream Scour - Erosion of the channel bottom caused by high flows of water, loss of channel stability, or debris torrents.

Characteristic landscape - In reference to the USDA Forest Service visual management system; the overall impression created by a landscape's unique combination of visual features (land, vegetation, water, structures), as seen in terms of form, line, color and texture; synonymous with "visual landscape character." (6)

Chargeable Volume - All timber volume included in the growth and yield projections for the selected management prescriptions used to arrive at the allowable sale quantity, based on regional utilization standards. (10)

Clearcutting - The cutting method that describes the silviculture system in which the old crop is cleared over a considerable area at one time. Regeneration then occurs from (a) natural seeding from adjacent stands, (b) seed contained in the slash or logging debris, (c) advance growth, or (d) planting or direct seeding. An even-aged forest usually results. (3)

Climatic regimes - A generalized climatic classification which applies to a specific land area; generally that area can be expected to experience that kind of climate in any given year.

Climax - The culminating stage in plant succession for a given site where the vegetation has reached a highly stable condition. (6)

Climax Species - Those species that dominate a climax stand in either numbers per unit area or biomass.

Closure - An administrative order restricting either location, timing, or type of use in a specific area.

Coastal Douglas-Fir Zone - The area west of the crest of the Cascade Mountain Range in the States of Oregon and Washington.

Code of Federal Regulations (CFR) - A codification of the general and permanent rules published in the Federal Register by the Executive departments and agencies of the Federal Government. (1)

Coho Smolt - Young coho salmon which are ready to migrate to the sea.

Commercial Forest Land - Land that is producing, or is capable of producing, crops of industrial wood and (1) has not been withdrawn by Congress, the Secretary of Agriculture, or the Chief of the Forest Service; (2) land where existing technology and knowledge is available to ensure timber production without irreversible damage to soil productivity or watershed conditions; and (3) land where existing technology and knowledge, as reflected in current research and experience, provides reasonable assurance that adequate restocking can be obtained within 5 years after final harvesting.

Commercial thinning - Any type of tree thinning that produces merchantable material at least equal in value to the direct costs of harvesting. (3)

Commodities - A transportable resource with commercial value; all resource products that are articles of commerce. (6)

Common varieties - Nonmineralized sand, gravel, stone, etc. (See *Mineral materials*.)

Community Cohesion - The degree of unity and cooperation within a community in working toward shared goals and solutions to problems.

Community stability - A community's capacity to handle change without major hardships or disruptions to component groups or institutions. Measurement of community stability requires identification of the type and rate of proposed change and an assessment of the community's capacity to accommodate that level of change. (10)

Compaction - The packing together of soil particles by forces exerted at the soil surface, resulting in increased soil density.

Composite - In reference to planning for special areas under the Land and Water Conservation Act of 1965, an area identified as having unique recreation and/or fish and wildlife values.

Composite Plan - A documented analysis which, at one time was required to justify the use of Land and Water Conservation Funds for acquisition of private lands within a designated composite.

Condition class - 1) Timber: a grouping of timber strata into size-age-stocking classes for Forest planning. 2) Range: one of a series of arbitrary categories used to classify range conditions, usually expressed as excellent, good, fair, or poor. (9)

Congressionally Classified and Designated Areas - Areas that require congressional enactment for their establishment, such as National Wildernesses, National Wild and Scenic Rivers, and National Recreation Areas.

Constraint - In FORPLAN, a limit (either ceiling or floor) which may be placed on the level of inputs to or outputs from a forest.

Consumptive use - A use of resources that permanently reduces the supply, such as mining. (See also *Nonconsumptive use*.) (6)

Conversion period - The duration of a change from one silvicultural system to another or from one tree species to another. (3)

Core Area - An area (as related to the spotted owl) encompassing at least 300 contiguous acres of old growth suitable for nesting and reproduction. The area consists of a pair's territory, in part, the nest site, and principal roost areas.

Corridor - A linear strip of land identified for the present or future location of transportation or utility rights-of-way within its boundaries. (1)

Costs -

1. *Direct cost.* A cost that directly contributes to the production of the primary outputs of an activity, project, or program. (10)
2. *Economic cost.* Total fixed and variable costs for inputs, including costs incurred by other public parties and, if appropriate, opportunity costs and cost savings. (10)
3. *Fixed cost.* A cost that is committed for the time horizon of planning or the decision being considered. Fixed costs include fixed ownership requirements, fixed protection, short-term maintenance, and long-term planning and inventory costs. (10)
4. *Investment cost.* A cost of creating or enhancing capital assets, including costs of administrative or common-use transport facilities and resource management investments. (10)

5. *Joint cost.* A cost contributing to the production of more than one type of output. (10)
6. *Non-Forest Service cost.* A cost of investment and operating activities paid by cooperators or other non-Forest Service agencies which are part of Forest Service management programs, or which contribute to the outputs included in the analysis. (10)
7. *Opportunity cost.* The value of a resource's foregone net benefits in its most economically efficient alternative use. (10)
8. *Unit cost or cost per unit.* Total cost of production divided by the number of units produced. (10)
9. *Variable cost.* A cost that varies with the level of controlled outputs in the time horizon covered by the planning period or decisions being considered. (10)

Cost, Capital Investment - The cost of manmade structures, facilities, or improvements in natural resources used as inputs in production processes to produce outputs over one or more planning periods. (FSM 1905)

Cost effective - Achieving specified outputs or objectives under given conditions for the least cost. (6)

Cost efficiency - The usefulness of specified inputs (costs) to produce specified outputs (benefits). In measuring cost efficiency, some outputs, including environmental, economic, or social impacts, are not assigned monetary values, but are achieved at specified levels in the least costly manner. Cost efficiency is usually measured using present net value, although use of benefit-cost ratios and internal rate-of-return may be appropriate. (1)

Cost sensitivity analysis - A type of analysis done to estimate how a particular problem's solution would change if the costs were increased or decreased.

Council on Environmental Quality (CEQ) - An advisory council to the President established by the National Environmental Policy Act of 1969. It reviews federal programs for their effect on the environment, conducts environmental studies, and advises the President on environmental matters. (Abstracted from the National Environmental Policy Act of 1969, as Amended.)

Cover/forage ratio - The mixture of cover and forage areas on a unit of land, expressed as a ratio. The optimum cover/forage mix for deer on summer range is 60:40.

Created opening - An opening in the Forest created by the silvicultural practices of: final removal harvest of shelterwood; clearcutting; seed tree cutting; or group selection cutting. (2)

Crown height - In a standing tree, the vertical distance from ground level to the base of the crown, measured either to the lowest live branch whorl, or to the lowest live branch (excluding shoots arising spontaneously from buds on the stem of a woody plant), or to a point halfway between. (3)

Cubic foot (CF) - The amount of timber equivalent to a piece of wood one foot by one foot by one foot. (3)

Culmination of mean annual increment (CMAI) - The age at which average annual growth is greatest for a stand of trees. Mean annual increment is expressed in cubic feet measure, and is based upon expected growth according to the management intensities and utilization standards assumed in

accordance with 36 CFR 219.16(a)(2)(i) and (ii). Culmination of mean annual increment includes regeneration harvest yields and any additional yields from planned intermediate harvests. (10)

Cultural resource - The remains of sites, structures, or objects used by humans in the past--historic or prehistoric. (2)

Cumulative effects or impacts - Cumulative effect or impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. (40 CFR 1508.7 - these regulations use effects and impacts synonymously.)

Cutting cycle - The planned lapse of time between successive cuttings in a stand. (6)

D

Data - Any recorded measurements, facts, evidence, or observations reduced to written, graphical, tabular, or computer form. The term implies reliability, and therefore provides an explanation of source, type, precision and accuracy. (6)

Debris Slide - A shallow landslide of soil, rock, and organic material that occurs on steep slopes.

Debris Torrent - A large debris slide that is charged with water and confined to a steep stream channel. Debris torrents may travel several thousand feet.

Decadent (stands) - Decaying; deteriorating. (4)

Decision Criteria - Essentially the rules or standards used to evaluate alternatives. They are measurements of indicators that are designed to assist a decision maker in identifying a preferred choice from an array of possible alternatives.

Deer winter range - See *Big game winter range*.

De facto outputs - Resource outputs produced from lands not necessarily being managed or allocated for the specific production of these outputs. De facto resource outputs are most commonly recreation and wildlife opportunities. For example, an area may not be allocated to emphasize recreation management and, in fact, may be scheduled for timber harvest in a later decade. However, the area can usually continue to provide recreation opportunities until it is entered for harvesting.

De facto supply - In dispersed recreation, those acres that are available for timber harvests but not entered.

Deferred rotation - Deferred grazing; deferred utilization; withholding livestock from a range to allow the forage to reach a certain stage of growth, stocking, and vigor for those species that govern utilization. (3)

Demand - The amount of an output that users are willing to take at a specified price, time period, and condition of sale. (10)

Demand Analysis - A study of the factors affecting the schedule of demand for an output, including the price-quantity relationship, if applicable. (10)

Department of Energy (DOE) - A department of the Executive branch of the Federal Government which oversees national matters involving the development and use of energy.

Departure - A schedule which deviates from the principle of nondeclining flow by exhibiting a planned decrease in the timber sale and harvest schedule at any time in the future. (10)

Dependent communities - Communities whose social, economic, or political life would change in important respects if market or nonmarket outputs from the National Forests were substantially decreased.

Designated Area (Air Quality) - Those areas delineated in the Oregon and Washington Smoke Management Plans as principal population centers of air quality concern.

Design standard - Approved design and construction specifications used mainly for recreation facilities and roads--includes specified materials, colors, dimensions, etc.

Desirable Residual Vegetation - The remaining vegetation after application of harvest cutting methods that meets management area objectives. The vegetation may be trees, shrubs, grass, or a combination.

Developed recreation - Recreation that requires facilities that, in turn, result in concentrated use of an area. Examples of developed recreation areas are campgrounds and ski areas; facilities in these areas might include roads, parking lots, picnic tables, toilets, drinking water, ski lifts, and buildings. (2)

Developed recreation site - Relatively small, distinctly defined areas where facilities are provided for concentrated public use; e.g., campgrounds, picnic areas, swimming areas, and downhill ski areas. (6)

Diameter at breast height (d.b.h.) - The diameter of a tree measured 4 feet 6 inches above the ground. (6)

Discount rate - An interest rate that represents the cost or time value of money in determining the present value of future costs and benefits. A "real" discount rate is one adjusted to exclude the effects of inflation. (6) (10)

Discounting - An adjustment, using a discount rate, for the value of money over time so that costs and benefits occurring in the future are reduced to a common time, usually the present, for comparison. (6) FSM 1905

Dispersed recreation - A general term referring to recreation use outside developed recreation sites; this includes activities such as scenic driving, hiking, backpacking, hunting, fishing, snowmobiling, horseback riding, cross-country skiing, and recreation in primitive environments. (2)

Distance zone - One of three categories used in the Visual Management System to divide a view into near and far components. The three categories are: (1) foreground, (2) middleground, and (3) background.

Diversity - The distribution and abundance of different plant and animal communities and species within the area covered by a land and resource management plan. (2) (1)

Douglas-Fir Type - An association of tree species in which Douglas-fir is recognized as one of the principal seral species.

Draft Environmental Impact Statement (DEIS) - The draft statement of environmental effects which is required for major federal actions under Section 102 of the National Environmental Policy Act, and released to the public and other agencies for comment and review. (6)

Dry Ravel - The slow to very rapid gravity driven movement of dry soil. Dry ravel usually occurs when the organic materials in the surface few inches of the soil are severely altered by fire. Dry ravel is most likely where soils are medium to coarse textured and slopes are over 60% gradient.

Duff - Organic matter in various stages of decomposition on the floor of the forest. (4)

E

Early forest succession - The early stage or condition of a plant community that occurs during its development from bare ground to climax. (6)

Economic efficiency - The usefulness of inputs (costs) to produce outputs (benefits) and effects when all costs and benefits that can be identified and valued are included in the computations. Economic efficiency is usually measured using present net value, though use of benefit-cost ratios and rates-of-return may sometimes be appropriate. (10)

Economic growth - Increased economic output in real terms over time. (6)

Economic impacts -

1. *Direct economic impact.* Effects caused directly by forest product harvest or processing or by forest uses. (10)
2. *Indirect economic impact.* Effects that occur when supporting industries sell goods or services to directly affected industries. (10)
3. *Induced economic impact.* Effects that occur when employees or owners of directly or indirectly affected industries spend their income within the economy. (10)

Ecosystem - An interacting system of organisms considered together with their environment; for example, marsh, watershed, and lake ecosystems. (2)

Edge - An area where plant communities meet or where successional stages or vegetation conditions within the plant communities come together. (2)

Effects - Environmental changes resulting from a proposed action. Included are direct effects, which are caused by the action and occur at the same time and place, and indirect effects, which are caused

by the action and are later in time or further removed in distance, but which are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems.

Effects and impacts as used in this FEIS are synonymous. Effects include ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic quality, historic, cultural, economic, social, or healthy effects, whether direct, indirect, or cumulative. Effects may also include those resulting from actions that may have both beneficial and detrimental effects, even if on balance the agency believes that the effects will be beneficial. (40 CFR 1508.8, 2)

Electronic sites - Areas designated for the operation of equipment which transmits and receives radio signals (excluding television aerials and antennas) for individual pickup of programming, and passive reflectors.

Employment - Labor input into a production process, measured in the number of person-years or jobs. A person-year is 2,000 working hours by one person working year long or by several persons working seasonally. (10)

Endangered species - Any species of animal or plant that is in danger of extinction throughout all or a significant portion of its range. Plant or animal species identified by the Secretary of the Interior as endangered in accordance with the 1973 Endangered Species Act. (6)

Ending Inventory Constraint - The standing volume left in the inventory at the end of the planning horizon. The constraint insures that there is enough standing inventory at the end of the planning horizon to perpetuate long-term sustained yield capacity harvest levels on a nondeclining flow basis.

Environmental Analysis - A comprehensive evaluation of alternative actions and their predictable short- and long-term environmental effects, which include physical, biological, economic, social, and environmental design factors and their interactions. (2)

Environmental Assessment - The concise public document required by the regulations for implementing the procedural requirements of the National Environmental Policy Act. (40 CFR 1508.9, 2)

Environmental Impact Statement (EIS) - A statement of the environmental effects of a proposed action and alternatives to it. It is required for major federal actions under Section 102 of the National Environmental Policy Act (NEPA), and released to the public and other agencies for comment and review. It is a formal document that must follow the requirements of NEPA, the Council on Environmental Quality (CEQ) guidelines, and directives of the agency responsible for the project proposal. (6)

Environmental Protection Agency (EPA) - An agency of the Executive Branch of the Federal Government which has the responsibility for environmental matters of national concern.

Ephemeral draw - A drainage way which conveys surface water for short periods of time in direct response to snowmelt or rainfall runoff.

Erosion - (1) The wearing away of the land surface by running water, wind, ice, or other geologic agents, including such processes as gravitation creep; or (2) detachment and movement of soil or rock

fragments by water, wind, ice, or gravity. The following terms are used to describe different types of erosion:

Accelerated Erosion - Erosion which is much more rapid than natural erosion, with the increase in erosion rate resulting primarily from the influence of human activities, or, in some cases, of other events that expose mineral soil surfaces, such as wildfire.

Gully erosion - The erosion process whereby water accumulates in narrow channels, and over short periods, removes the soil from this narrow area to considerable depths, ranging from 4 inches to as much as 75 to 100 feet.

Rill erosion - An erosion process in which numerous small channels less than 4 inches deep and 6 inches wide are formed.

Sheet erosion - The removal of a fairly uniform layer of soil from the land surface by runoff water.

Estuary - A semiclosed body of water which has a free connection with the open sea. The sea water in an estuary is measurably diluted with fresh water from streams, rivers, or ground water.

Eutrophic - Of habitats, particularly soils and water, that are rich or adequate in nutrients. (3)

Even-aged management - The application of a combination of actions that results in the creation of stands in which trees of essentially the same age grow together. Managed even-aged forests are characterized by a distribution of stands of varying ages (and, therefore, tree sizes) throughout the forest area. The difference in age between trees forming the main canopy level of a stand usually does not exceed 20 percent of the age of the stand at harvest rotation age. Regeneration in a particular stand is obtained during a short period at or near the time that a stand has reached the desired age or size for regeneration and is harvested. Clearcut, shelterwood, or seed tree cutting methods produce even-aged stands. (1)

Even-aged stands - Stands in which all trees are of about the same age. (A spread of 10 to 20 years is generally considered one age class.) Cutting methods producing even-aged stands are clearcut, shelterwood, or seed tree systems.

Exchange reserved - Lands which have been added to the National Forest System by exchange under the General Exchange Act for reserved/proclaimed National Forest System Lands.

Existing visual condition (EVC) - An inventory of existing visual impacts as seen from sensitive travel corridors or use areas; measures visual changes to the landscape caused by natural or human activities.

Exports - As used in IMPLAN are defined as outputs or products produced but not consumed or used in production of other outputs in the impact area. Includes both exports to other areas of the U.S. and international exports. (10)

Extensive Forest Management - A low investment level of management on regulated timberlands that requires initial harvest, regeneration, and final harvest. Some precommercial thinning may be done to prevent stagnation and disease buildup.

Extirpation - Eradication; extermination. (5)

F

Fault - A ground surface fracture or fracture zone along which there has been a displacement of one side with respect to the other. (6)

Fault scarp - An abrupt change in surface elevation resulting from earthquake activity. Fault scarps may vary from as little as a few inches to two or three thousand feet.

Fawn rearing habitat - Areas used regularly by female deer for fawn raising; optimum fawning habitat includes low shrubs or small trees under an overstory of about 50% closure, usually located on slopes of less than 15 percent where vegetation is succulent and plentiful in June, and water is available within 183 meters. (8)

Feral - Non-native species, or their progeny, which were once domesticated but have since escaped from captivity and are now living free. (6)

Final cut - See *Final removal harvest*.

Final Environmental Impact Statement - The final version of the statement of environmental effects required for major federal actions under section 102 of the National Environmental Policy Act. It is a revision of the draft environmental impact statement to include public and agency responses to the draft. (6)

Final removal harvest - The removal of the last seed bearers or shelter trees after regeneration is established under a shelterwood system. (6)

Fire management - All activities required for protection of resources from fire and for the use of fire to meet land management goals and objectives. (6)

Fisheries habitats - Streams, lakes, and reservoirs that support fish populations.

Flood plain - The lowland and relatively flat area adjoining inland waters, including, at a minimum, that area subject to a one percent or greater chance of flooding in any given year. (2)

Forage - All browse and nonwoody plants that are available to livestock or game animals and used for grazing or harvested for feeding. (6)

Forb - Any herb other than grass. (7)

Foreground - A term used in visual management to describe the portions of a view between the observer and up to 1/4 to 1/2 mile distant. (6)

Forest and Rangeland Renewable Resources Planning Act of 1974 - An Act of Congress requiring the preparation of a program for the management of the National Forests' renewable resources, and

the preparation of land and resource management plans for units of the National Forest System. It also requires a continuing inventory of all National Forest System lands and renewable resources. (6)

Forest land - Land at least 10 percent occupied by forest trees or formerly having had such tree cover and not currently developed for nonforest use. Lands developed for nonforest use include areas for crops, improved pasture, residential, or administrative areas, improved roads of any width, and adjoining road clearings and powerline clearings of any width. (1) (10)

Forest Program - A forest program is the summary or aggregation of project or activity information that makes up an integrated (multifunctional) course of action for a given level of funding on a National forest that is consistent with the Forest plan.

Forest-Range Environmental Study (FRES) levels - Various range management intensities developed to reflect the degree of range utilization. FRES levels measure the amount of native forage available to livestock for consumption under these different intensities. Developed in a Forest Service report entitled "The Nation's Range Resources -- A Forest-Range Environmental Study," Forest Resources Report No. 19.

Forest Service Handbook (FSH) - For Forest Service use, directives that provide detailed instructions on how to proceed with a specialized phase of a program or activity. (10)

Forest Service Manual (FSM) - A system of manuals which provides direction for Forest Service activities.

Forest system roads - Roads that are part of the Forest development transportation system, which includes all existing and planned roads as well as other special and terminal facilities designated as Forest development transportation facilities. (See arterial roads, collector roads, and local roads.)

Forest Type - A classification of forest land based upon the tree species presently forming a plurality of basal area stocking in live trees.

Formally dedicated area - An area of the Forest set aside for a specific use by virtue of a formal ceremony or congressional designation.

FORPLAN - A linear programming system used for developing and analyzing forest planning activities. (10)

Free-to-Grow - A term used by silviculturists to indicate that trees are free of growth restraints, the most common of which is competing over-topping vegetation.

Fuel break - A zone in which fuel quantity has been reduced or altered to provide a position for suppression forces to make a stand against wildfire. Fuel breaks are designated or constructed before the outbreak of a fire. Fuel breaks may consist of one or a combination of the following: natural barriers, constructed fuel breaks, constructed barriers. (6)

Fuel management - The practice of planning and executing the treatment or control of living or dead vegetative material in accordance with fire management direction. (10)

Fuel treatment - The rearrangement or disposal of natural or activity fuels (generated by management activity, such as slash left from logging) to reduce fire hazard. Fuels are defined as both living and dead vegetative materials consumable by fire.

Fuels - Combustible wildland vegetative materials. While usually applied to above ground living and dead surface vegetation, this definition also includes roots and organic soils such as peat. (10)

Full-service management - Management of developed recreation sites to furnish the full range of amenities and maintenance for the public enjoyment. Management objectives are based on site capacity, site protection needs, seasonal demands for public use, and desired levels of service to enhance visitor's experience and convenience and provide optimum maintenance.

Furbearing species - See *Game species*.

G

Game species - Any species of wildlife or fish for which seasons and bag limits have been prescribed and which are normally harvested by hunters, trappers, and fishermen under state or federal laws, codes, and regulations. (6)

Genetic seedlings - Tree seedlings from a genetically superior seed source. The seeds are collected from trees displaying exceptional form and raised in nurseries before outplanting. The seedlings usually have faster growth rates than naturally regenerated seedlings.

Geomorphology - The science that deals with land and submarine relief features of the earth's surface and seeks a genetic interpretation of them, using the principles of physiography in its descriptive aspects and dynamic and structural geology in its explanatory phases. (6)

Geothermal - Of or pertaining to the internal heat of the earth. (4)

Goal - A concise statement that describes a desired condition to be achieved sometime in the future. It is normally expressed in broad, general terms and is timeless in that it has no specific date by which it is to be completed. Goal statements form the principal basis from which objectives are developed. (2)
(1)

Goods -

1. *Nonmarket good*. An output that is not normally exchanged for money in a market. Usually no market has evolved because ownership of the good is not clear, exclusive use is not possible under current laws, or it is not possible to consistently define good. (10)
2. *Public good*. An output for which it is impractical to impose a charge, either because it must be supplied to all if it is supplied to one or because the costs of collection and control exceed likely revenue. (10)

Goods and services - The various outputs, including on-site uses, produced from forest and rangeland resources. (2,1)

Grass/forb - An early forest successional stage where grasses and forbs are the dominant vegetation.

Group selection cutting - See *Uneven-aged silvicultural systems*.

Growing season - That part of the year when temperature and moisture are favorable for vegetation growth.

Guideline - An indication or outline of policy or conduct; i.e., any issuance that assists in determining the course of direction to be taken in any planned action to accomplish a specific objective. (2)

Guzzler - A device for collecting and storing precipitation for use by wildlife or livestock. Consists of an impenetrable water collection area, a storage facility, and a trough from which animals may drink. (9)

H

Habitat - The place where a plant or animal naturally or normally lives or grows. (2)

Habitat Capability - The estimated ability of an area, given existing or predicted habitat conditions, to support a wildlife, fish or plant population. It is measured in terms of potential population numbers.

Habitat diversity - The distribution and abundance of different plant and animal communities and species within a specific area.

Hardwood - A broad-leaved flowering tree.

Harvest Cutting Method - A combination of interrelated actions whereby forests are tended, harvested, and replaced. The combination of management practices used to manipulate the vegetation results in forests of distinctive form and character. Harvest cutting methods are classified as even-aged and uneven-aged.

Harvest dispersion (factor) - The dispersion of cutting units over the land base in order to meet clearcut size limitations, or other resource constraints. An example of a harvest dispersion constraint is: no more than 25 percent of an analysis area may be harvested in one decade.

Headwaters - The upper tributaries of a river. (4)

Herbaceous - An adjective describing seed-producing plants that do not develop persistent woody tissue, but die down to ground level at the end of the growing season.

Hiding cover - Vegetation that will hide 90 percent of an adult deer or elk from the view of a human at a distance of 200 feet or less. The distance at which the animal is essentially hidden is called a "sight distance."

High-site timbered lands - A relative measure of resource productivity.

Historic site - Site associated with the history, tradition, or cultural heritage of national, state, or local interest, and of enough significance to merit preservation or restoration. (6)

Hydrology - The scientific study of the properties distribution and effects of water in the atmosphere, on the earth's surface, and in soil and rocks.

I

ID Team - See *Interdisciplinary team*.

Impacts - See *Effects*.

IMPLAN - A computer-based system used by the Forest Service for constructing nonsurvey input/output models to measure economic input. The system includes a data base for all countries in the U.S. and a set of computer programs to retrieve data and perform the computational tasks for input/output analysis. (10)

Imports - As used in IMPLAN are defined as purchases of products for use in production of other products and for final consumption from outside the impact area. Includes both imports from other areas of the U.S. and international imports. Competitive imports are the same as local domestic products which are not produced in quantities sufficient to meet local demands or which obtain a share of the local market formerly supplied by local producers. Noncompetitive imports are products not produced locally. (10)

Improved genetic stock - Group of plants (trees) that have been improved genetically (4).

Income - Employee compensation, profits, rents, and other payments to households. (10)

Indicator species - See *Management indicator species*.

Indirect outputs - Outputs caused by an action, but which are later in time or farther removed in distance, although still reasonably foreseeable. (See *Effects*.)

Individual (single) tree selection - See *Uneven-aged silvicultural systems*.

Induced outputs - Outputs in the private sector induced by the direct outputs produced on the Forest. (6)

Influence zone - See *Zone of influence*.

Input/output analysis - A quantitative study of the interdependence of a group of activities, based on the relationship between inputs and outputs of the activities. The basic tool of analysis is an input-output model for a given period that shows simultaneously for each economic sector the value of inputs and outputs, as well as the value of transactions within each economic sector. It has especially been applied to estimate the effects of changes in Forest output levels on local economic activity. (3)

Instream flows - A prescribed level (or levels) of streamflow, usually expressed as a stipulation in a permit authorizing a dam or water diversion, for the purpose of meeting National Forest System management objectives.

Integrated pest management - A process for selecting strategies to regulate forest pests in which all aspects of a pest-host system are studied and weighed. The information considered in selecting appropriate strategies includes the impact of the unregulated population on various resource values, alternative regulation tactics and strategies, and benefit/cost estimates of those alternative strategies. Regulatory strategies are based on sound silvicultural practices and ecology of the pest-host system, and consist of a combination of tactics such as timber stand improvement plus selective use of pesticides. A basic principle in the choice of strategy is that it be ecologically compatible or acceptable. (2) (1)

Integrated resource management - A management strategy which emphasizes no resource element to the exclusion or violation of the minimum legal standards of others. (FSM 1905)

Intensive grazing management - Grazing management that controls distribution of cattle and duration of use on the range, usually by fences, so parts of the range are rested during the growing season. (See also *Quality extensive management*; *Quality intensive management*.)

Intensive management (intensive forest management) - A high investment level of timber management that includes use of precommercial thinnings, commercial thinnings, genetically improved stock, and control of competing vegetation. (2)

Interdisciplinary Team (ID Team) - A group of individuals with different training assembled to solve a problem or perform a task. The team is assembled out of recognition that no one scientific discipline is sufficiently broad to adequately solve the problem. (6)

Intermediate cutting - Any removal of trees from a stand between the time of its formation and the regeneration cut. Most commonly applied intermediate cuttings are release, thinning, improvement, and salvage. (6)

Intermingled Ownerships - Lands within the National Forest boundaries or surrounded by National Forest lands that are owned by private interests or other government agencies.

Intermittent Stream - A stream that runs water in most months, but does not run water during the dry season during most years.

Interpretive services - Visitor information services designed to present educational and recreational values to Forest visitors to enhance their understanding, appreciation, and enjoyment of the Forest.

Intertie - A link between two points, objects, or concepts. (5)

Inventory data and information collection - The process of obtaining, storing, and using current inventory data appropriate for planning and managing the Forest. (6)

Irretrievable - Applies to losses of production, harvest, or commitment of renewable natural resources. For example, some or all of the timber production from an area is irretrievably lost during the time an area is used as a winter sports site. If the use is changed, timber production can be resumed. The production lost is irretrievable, but the action is not irreversible. (10)

Irreversible - Applies primarily to the use of nonrenewable resources, such as minerals or cultural resources, or to those factors that are renewable only over long time spans, such as soil productivity. Irreversible also includes loss of future options. (10)

Issue - A point, matter, or question of public discussion or interest to be addressed or decided through the planning process. (See also *Public issue*.) (2)

L

Land and Water Conservation Fund (L&WCF) - Funds collected from sales of surplus Government real property, motorboat fuels taxes, recreation use fees, etc. which are available to purchase and develop certain qualifying lands for recreational purposes.

Land class - The topographic relief of a unit of land. Land classes are separated by slope, which coincides with the timber inventory process. The three land classes used in the Fremont National Forest Plan are defined by the following slope ranges: 0 to 40 percent; 40 to 60 percent; and greater than 60 percent.

Land exchange - The conveyance of nonfederal land and/or interests in exchange for National Forest System land or interests in land.

Landform - An area of that is defined by its particular combination of bedrock and soils, erosion processes and climatic influences.

Landing - Any place where round timber is assembled for further transport, commonly with a change of method. (3)

Land management - The intentional process of planning, organizing, programming, coordinating, directing, and controlling land use actions. (6)

Landownership pattern - The National Forest System resource land base, in relation to other land ownerships within given boundaries. (2)

Landscape management - The art and science of planning and administering the use of Forest lands in such ways that the visual effects maintain or upgrade human psychological welfare. The planning and design of the visual aspects of multiple-use land management.

Lands Not Appropriate for Timber Production - Includes lands that: 1) are proposed for resource uses that preclude timber production, such as Wilderness; 2) have other management objectives that limit timber production to the point where management requirements set forth in CFR 219.27 cannot be met; or, 3) are not cost efficient over the planning horizon in meeting forest objectives including timber production. (1)

Lands Not Suited (Unsuitable) for Timber Production - Includes lands that: 1) are not forest land as defined in CFR 219.3; 2) are likely, given current technology, to suffer irreversible resource damage to soils productivity, or watershed conditions; 3) cannot be adequately restocked as provided in 36 CFR 219.27(c)(3); or, 4) have been withdrawn from timber production by an Act of Congress, the Secretary of Agriculture, or the Chief of the Forest Service. In addition, Forest lands other than those that have been identified as not suited for timber production shall be reviewed and assessed prior to formulation of alternatives to determine the costs and benefits of a range of management intensities for timber production. (1)

Lands Suitable for Timber Production - Includes all lands not classified as either Not Suited or Not Appropriate for Timber Production.

Landtype - A portion of the Forest mapped in the Siuslaw National Forest Soil Resource Inventory that has a defined arrangement of specific landforms that reacts to management activities in generally predictable ways. Landtypes range from 60 to 600 acres in size.

Landtype Association - A group of landtypes that make up a large portion of the Forest. The landtypes are sufficiently homogeneous to be considered as a whole for modeling the future outputs and effects of planned management activities. Landtype Associations do not usually follow watershed boundaries and are defined on the basis of general similarities in geology, climate, landform and vegetation. Landtype Associations on the Forest range in size from 14,000 to 93,000 acres.

Land use allocation - The commitment of a given area of land or a resource to one or more specific uses--for example, to campgrounds or wilderness. (6)

Leasable minerals - Coal, gas, oil, phosphate, sodium, potassium, oil shale, sulphur, geothermal steam. Also includes other minerals on acquired National Forest Lands. (6)

Least-cost analysis - Determination of the least cost means of attaining specified results. (10)

Level IV Law Enforcement Officer - A Forest Service employee who has graduated from the Federal Law Enforcement Academy and holds a law enforcement commission signed by the Regional Forester. District Level IV officers generally perform other duties as well as law enforcement.

Lifestyle - The characteristic way people live, indicated by consumption patterns, work, leisure, and other activities. (10)

Linear programming - A mathematical method used to determine the cost-effective allocation of limited resources between competing demands when both the objective (e.g., profit or cost) and the restrictions on its attainment are expressible as a system of linear equalities or inequalities. (6)

Locatable minerals - Those hardrock minerals which can be obtained by filing a claim on Public Domain or National Forest System lands reserved from the Public Domain. In general, the locatable minerals are those hardrock minerals which are mined and processed for the recovery of metals, but may also include certain nonmetallic minerals and uncommon varieties of mineral materials. (6)

Logging residues - See *Slash*.

Long-term sustained yield timber capacity (LTSY) - The highest uniform wood yield from lands being managed for timber production that may be sustained under a specified management intensity, consistent with multiple-use objectives. (1)

M

Management Area - An area with similar management objectives and a common management prescription. (1) (10)

Management concern - An issue, problem, or condition which influences the range of management practices identified by the Forest Service in the planning process. (1)

Management direction - A statement of multiple use and other goals and objectives, and the associated management prescriptions, and standards and guidelines for attaining them. (1)

Management emphasis - That portion of a management scheme which receives the most stress or is of the greatest significance or importance. It may be the resources being produced, or it may be the way in which they are produced.

Management indicator species - A species selected because its welfare is presumed to be an indicator of the welfare of other species using the same habitat. A species whose condition can be used to assess the impacts of management actions on a particular area. (8)

Management Information Handbook (MIH) Codes - An accounting system that labels each Forest activity or budget item with a code to identify that activity in a consistent manner. Normally used for budgeting purposes.

Management intensity - The management practices or combination of management practices and associated costs to obtain different levels of goods and services (1). In FORPLAN management prescriptions, a set of activities designed to accomplish a particular management emphasis (see also *Management prescriptions*).

Management practice - A specific activity, measure, course of action, or treatment. (1)

Management prescription - The management practices and intensity selected and scheduled for application on a specific area to attain multiple use and other goals and objectives (1). In FORPLAN, the combination of a management emphasis and associated management intensities with a variety of timing choices for implementation. (2)

Management Requirement (MR) - Minimum standards for resource protection, vegetation manipulation, silvicultural practices, even-aged management, riparian areas, soil and water diversity, to be met in accomplishing National Forest System goals and objectives. (1)

Marginal timber component - Timber on which the income just equals or could just equal the costs of production under a given form of management. (3)

Market - The processes of exchanging a good or service for money or other goods or services according to a customary procedure. A market may occur in a specific place or throughout an area by individual transactions. (10)

Market area - The area from which a market draws or to which it distributes its goods or services and for which the same general price structure and price influences prevail. (10)

Market value - The unit price of an output normally exchanged in a market after at least one stage of production. Market value is expressed in terms of prices as evidenced by market transactions. (10)

Mass movement - A general term for any of the variety of processes by which large masses of earth material are moved downslope by gravitational forces - either slowly or quickly. (6)

Mature timber - Trees that have attained full development, particularly height, and are in full seed production. (3)

Maximum modification - See *Visual quality objective*.

Mean annual increment of growth - The total volume of a tree or stand of trees up to a given age divided by that age. (2)

Mesotrophic - Habitats, particularly soil and water, of moderate nutrient capacity. (3)

Middleground - A term used in visual management to describe the portions of a view extending from the foreground zone out to 3 to 5 miles from the observer. (6)

Mineral entry - The filing of a mining claim upon public domain or related land to obtain the right to any minerals it may contain. (6)

Mineral entry withdrawal - The exclusion of mining locations and mineral development work on areas required for administrative sites by the Forest Service and other areas highly valued by the public. (6)

Mineral materials - Deposits such as sand, stone, gravel, and clay. (6)

Mineral soil - Weathered rock materials usually containing less than 20 percent organic matter. (6)

Minimum level management - FORPLAN term designating lands that will not be actively managed for timber or forage production. Often, these are lands that have high costs and low benefits associated with their management.

Minimum streamflows - A specified level of flow through a channel that must be maintained by the users of streams for biological, physical, or other purposes.

Mining claim - A portion of the public lands which a miner, for mining purposes, takes and holds in accordance with mining laws. (6)

Mitigation - Mitigation includes: (a) avoiding the impact altogether by not taking a certain action or parts of an action; (b) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (c) rectifying the impact by repairing, rehabilitating, or restoring the affected environment; (d) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and, (e) compensating for the impact by replacing or providing substitute resources or environments. (40 CFR Part 1508.20)

Mitigation measures - Actions to avoid, minimize, reduce, eliminate, or rectify adverse impacts of management practices.

Model - A representation of reality used to describe, analyze, or understand a particular concept. A "model" may be a relatively simple qualitative description of a system or organization, or a highly abstract set of mathematical equations. (6)

Modification - See *Visual quality objective*.

Monitoring and evaluation - The periodic evaluation of Forest Plan management practices on a sample basis to determine how well objectives have been met.

Mortality - In wildlife management, the loss in a population from any cause, including hunter kill, poaching, predation, accident, and disease. In forestry, trees in a stand that die of natural causes. (8)

Mountain pine beetle - A tiny black insect, ranging in size from 1/8 to 3/4 inch, that bores its way into a tree's cambium and cuts off its supply of nutrients, thus killing the tree.

Multiple Use - The management of all the various renewable surface resources of the National Forest System so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that some lands will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land and with consideration being given to the relative values of the various resources; and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output. (1)

Multiplier - A ratio of a measure of total change in income or employment to the direct income or employment change. The measure to total change may be direct plus indirect change (Type I Multipliers); or direct, indirect, and induced change (Type II Multipliers); or direct, indirect, and interactive increased induced demands based on population increase (Type III Multipliers). (10)

Municipal Watershed - A watershed which provides water for human consumption, where Forest Service management could have a significant effect on the quality of water at the intake point, and that provides water utilized by a community or any other water system that regularly serves: 1) at least 25 people on at least 60 days in a year, or 2) at least 15 service connections. In addition to cities, this includes campgrounds, residential developments, and restaurants. (10)

N

National Direction - Statements of missions, goals, and objectives that guide Forest Service planning. (FSM 1905)

National Environmental Policy Act (NEPA) of 1969 - An Act to declare a National policy which will encourage productive and enjoyable harmony between humankind and the environment, to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of humanity, to enrich the understanding of the ecological systems and natural resources important to the Nation, and to establish a Council on Environmental Quality. (The Principal Laws Relating to Forest Service Activities, Agriculture Handbook No. 453, USDA, Forest Service, 359 pp.)

National Forest Land and Resource Management Plan - A Plan which ". . . shall provide for multiple use and sustained yield of goods and services from the National Forest System in a way that maximizes long-term net public benefits in an environmentally sound manner." (1)

National Forest Management Act (NFMA) - A law passed in 1976 as an amendment to the Forest and Rangeland Renewable Resources Planning Act, requiring the preparation of Regional Guides and Forest Plans and the preparation of regulations to guide that development.

National Forest Systems (NFS) - All National Forest lands reserved or withdrawn from the public domain of the United States, all National Forest lands acquired through purchase, exchange, donation, or other means, the National Grasslands and land utilization projects administered under Title III of the Bankhead-Jones Farm Tenant Act (50 Stat. 525, 7 U.S.C. 1010-1012), and other lands, waters, or interests therein which are administered by the Forest Service or are designated for administration through the Forest Service as a part of the system. (16 U.S.C. 1608)

National Recreation Trails (NRT) - Trails designated by the Secretary of the Interior or the Secretary of Agriculture as part of the National system of trails authorized by the National Trails System Act. National Recreation Trails provide a variety of outdoor recreation uses. (6)

National Register of Historic Places - A listing (maintained by the U.S. National Park Service) of areas which have been designated as being of historical significance. The Register includes places of local and state significance as well as those of value to the Nation. (6)

National Wilderness Preservation System - All lands covered by the Wilderness Act and subsequent Wilderness designations, regardless of the governmental department having jurisdiction.

Natural barrier - A natural feature that restricts livestock or wildlife movements, such as a dense stand of trees or a cliff.

Natural regeneration - Reforestation of a site by natural seeding from the surrounding trees. Natural regeneration may or may not be preceded by site preparation.

Net Cash Flow - The difference between the annual receipts of an alternative and costs required to implement that alternative.

Net public benefits - An expression used to signify the overall long-term value to the nation of all outputs and positive effects (benefits) less all associated inputs and negative effects (costs), whether they can be quantitatively valued or not. Net public benefits are measured by both quantitative and qualitative criteria rather than a single measure or index. The maximization of net public benefits to be derived from management of units of the National Forest System is consistent with the principles of multiple use and sustained yield. (1)

Net Receipts - Receipts minus costs.

Net returns to the Treasury, Net cash flow - The difference between the total dollar receipts projected for an alternative and the total budget required to implement the alternative.

Nitrogen-Fixing (Nitrogen Fixation) - Conversion of free nitrogen by plants such as red alder into combined forms useful in nutrient cycles and other functions in the biosphere.

No Action Alternative (Alt. A) - This alternative is the "No Action" alternative required by the National Environmental Policy Act. It analyzes the effects of continuing management under direction established by the Fremont National Forest's 1979 Timber Resource Management Plan, using updated timber resource inventories and yield tables. Acres formerly allocated to old growth and stream-side management are replaced by Management Requirement plots in Alternative A, as mandated by the National Forest Management Act of 1976.

No Change Alternative (Alt. NC) - This alternative would implement the Fremont National Forest Timber Resource Management Plan as provided through the 1978 Klamath Basin Working Circle and the 1979 Lakeview Federal Sustained Yield Timber Resource Final Environmental Impact Statements, using the yield tables and timber resource inventories developed for this 1979 Plan. This alternative does not include all management requirements and would not meet the intent of the National Forest Management Act of 1976.

Nominal value - A monetary value relative to time that does not account for the effects of inflation.

Nonchargeable volume - All volume not included in the growth and yield projections for the selected management prescriptions used to arrive at the allowable sale quantity. (FSH 2409.13)

Noncommodity outputs - Resource outputs that are not normally bought and sold, or cannot be bought and sold, such as air quality or scenic beauty.

Nonconsumptive use - That use of a resource that does not reduce the supply. For example, nonconsumptive use of water includes hydroelectric power generation, boating, swimming, and fishing. (2)

Nondeclining flow - Where the quantity of timber planned for sale and harvest for any future decade is equal to or greater than the planned sale and harvest for the preceding decade, and this planned sale and harvest for any decade is not greater than the long-term sustained yield capacity. (1)

Nonforest land - Lands that never have had or that are incapable of having 10 percent or more of the area occupied by forest trees; or lands previously having such cover and currently developed for nonforest use. (6)

Nongame species - Animal species which are not hunted, fished, or trapped.

Nonmarket value - The unit price of a nonmarket output normally not exchanged in a market at any stage before consumption; it is thus necessary to impute nonmarket value from other economic information. (10)

Nonmarket valued outputs - Assessed value of a goods or service which is not traded in the market place and has no market value. Because it is not bought and sold, some measure other than price must be used in establishing the value. (6)

Nonpoint source pollution - Pollution whose source is general rather than specific in location. It is widely used in reference to agricultural and related pollutants-- for example, production of sediments by logging operations, agricultural pesticide applications, or automobile exhaust pollution. (6)

Nonpriced outputs - Nonpriced outputs are those for which there is no available market transaction evidence and no reasonable basis for estimating a dollar value. Subjective nondollar values are given to nonpriced outputs.

No Surface Occupancy - A clause used in mineral leases to prevent activities in sensitive areas. Sometimes results in closure of an area and sometimes has little impact if directional drilling can tap resources underlying restricted area.

Noxious weeds - Undesirable plant species that are unwholesome to the range or to animals. (6)

O

Objective - A concise, time-specific statement of measurable planned results that respond to pre-established goals. An objective forms the basis for further planning to define the precise steps to be taken and the resources to be used in achieving identified goals. (1)

Off-road vehicle (ORV) - Vehicles such as motorcycles, all-terrain vehicles, four-wheel drive vehicles, and snowmobiles. (2)

Old-growth deficit - A forest without the excess volume of mature/overmature old-growth trees that could be used to offset reductions in programmed harvest volume resulting from allocation changes.

Old-growth habitat - Habitat for certain wildlife that is characterized by overmature coniferous forest stands with large snags and decaying logs.

Old-growth stand (old growth) - Any stand of trees 10 acres or greater generally containing the following characteristics: 1) contain mature and overmature trees in the overstory and are well into the mature growth stage; 2) will usually contain a multilayered canopy and trees of several age classes; 3) standing dead trees and down material are present; and 4) evidences of man's activities may be present, but do not significantly alter the other characteristics and would be a subordinate factor in a description of such a stand. (2)

Oligotrophic - Lakes characterized by a low accumulation of dissolved nutrient salts, supporting only sparse plant and animal life, and having a high oxygen content, owing to the low organic content. (4)

Open to entry - With respect to minerals management, lands available to occupy under the mining laws.

Operational costs - Those costs associated with administering and maintaining National Forest facilities and resource programs.

Operational Plan - A document approved by the Forest Supervisor which specifies at the project level, implementation of the management direction established in the Forest Plan. (6)

Opportunity - A proposal that is considered in developing alternative activities, projects or programs where an option exists to invest profitably to improve or maintain a present condition.

Output - A good, service, or on-site use that is produced from forest and rangeland resources. See FSH 1309.11 for forest and rangeland outputs codes and units measure. Examples: X06-Softwood Sawtimber Production MBF; X80-Increased Water Yield - Acre Feet; W01-Primitive Recreation Use RVD's. (FSM 1905)

Output, Market - A good, service, or on-site use that can be purchased at a price. (FSM 1905)

Output, Nonmarket - A good, service, or on-site use not normally exchanged in a market. (FSM 1905)

Overbid - To bid more than the appraised value. (4)

Overgrazing - Continued overuse (year after year) creating a deteriorated range.

Overgrazed Range - A range that has deteriorated and may still be deteriorating from its productive potential due to overgrazing.

Overmature timber - The stage at which a tree declines in vigor and soundness, for example, past the period of rapid height growth. (2)

Overstory - That portion of the trees, in a Forest or in a stand of more than one story, forming the upper or uppermost canopy. (3)

Overuse (overutilization) - Utilizing an excessive amount of the current year's growth which, if continued, will result in overgrazing and range deterioration.

Overwood removal - A harvest method that removes the overstory of a two-story stand and leaves the smaller understory for further treatment (thinning or harvesting).

P

Partial Cut - Covers a variety of silvicultural practices where a portion of the stand is removed and a portion is left.

Partial retention - See *Visual quality objective*.

Particulates - Small particles suspended in the air and generally considered pollutants. (See *Total Suspended Particulates*.) (5)

Perennial stream - A stream that flows year round.

Permittee - Any person or business formally allowed to graze livestock on the land of another person or business (e.g.; on state or federal land). (3)

Personal use - Normally used to describe the type of permit issued for removal of wood products (firewood, post, poles, and Christmas trees) from National Forest land when the product is for home use and not to be resold for profit.

Persons-at-one-time (PAOT) - A recreation capacity measurement term indicating the number of people who can use a facility or area at one time. (2)

Pests - Any animal or plant that, during some portion of its life cycle, inhibits the establishment or growth of some other species of plant or animal favored by man.

Phenology - The science dealing with the influence of climate on the recurrence of such annual phenomena of animal and plant life as bird migrations, budding, etc. (4)

Physiographic province - A Region having a particular pattern of relief features or land forms that differs significantly from that of adjacent Regions. (6)

Planned ignition - A fire started deliberately, and controlled to accomplish a resource management objective.

Planning area - The area of the National Forest System covered by a Regional guide or forest plan. (1)

Planning criteria - Criteria prepared to guide the planning process. Criteria applied to collection and use of inventory data and information, analysis of the management situation, and the design, formulation, and evaluation of alternatives. (1)

Planning horizon - The overall time period considered in the planning process. It spans all activities covered in the analysis or plan and all future conditions and effects of proposed actions which would influence the planning decisions (1). In this FEIS and Forest Plan, the planning horizon is considered to be 15 decades.

Planning period - One decade. The time interval within the planning horizon that is used to show incremental changes in yields, costs, effects, and benefits. (1)

Planning records - The body of information documenting the decisions and activities which result from the process of developing a Forest Plan, revision, or significant amendment.

Plan of Operations - A document required from any person proposing to conduct mineral-related activities which utilize earth moving equipment and which will cause disturbance to surface resources or involve the cutting of trees. (36 CFR 228.4)

Pole/sapling - A Forest successional stage in which trees between five and nine inches in diameter are the dominant vegetation. (See also *Size class*.)

Pole timber - Trees of at least five inches in diameter at breast height, but smaller than the minimum utilization standard for sawtimber. (See also *Size class*.)

Policy - A guiding principle upon which is based a specific decision or set of decisions. (FSM 1905)

Potential yield - (*This term is in reference to the 1979 Timber Resource Plan only.*) Optimum sustained yield of timber harvest volume attainable with intensive forestry on available commercial forest land (forest lands able to produce 20 cubic feet of timber per acre per year or more) while considering the interrelationship with other forest resources and uses. Intensive forestry includes planting only with genetic stock, precommercial thinning, commercial thinning and release. Programmable net salvage volume and volume from marginally economical lands are also included (in reference to 155.2 MMBF per year in the 1979 TM Plan).

Practices - Those management activities that are proposed or expected to occur.

Precommercial thinning - The practice of removing some of the trees less than marketable size from a stand so that the remaining trees will grow faster. (2)

Prehistoric site - An area which contains important evidence and remains of the life and activities of early societies which did not record their history.

Preparatory cut - The removal of trees near the end of a rotation, which permanently opens the canopy and enables the crowns of seed bearers to enlarge, to improve conditions for seed production and natural regeneration. Typically done in the shelterwood system. (3)

Prescribed fire - A wildland fire burning under specified conditions which will accomplish certain planned objectives. The fire may result from either planned or unplanned ignitions. Proposals for use of unplanned ignitions for this purpose must be approved by the Regional Forester. (2)

Prescription - A written direction for harvest activities and regeneration methods.

Present net value (PNV) - The difference between the discounted value (benefits) of all outputs to which monetary values or established market prices are assigned and the total discounted costs of managing the planning area. (1)

Preservation - A visual quality objective that allows only for ecological changes. (2)

Price - The unit value of an output expressed in dollars. (10)

Price elasticity - A measure of the sensitivity of the quantity of a good or service exchanged to changes in price. (10)

Priced outputs - Priced outputs are those that are or can be exchanged in the market place. The dollar values for these outputs fall into two categories: market or nonmarket (assigned values).

Price-quantity Relationship - A schedule of prices that would prevail in a market for various quantities of the output exchanged. (10)

Price trend analysis - An analysis done to estimate how a particular FORPLAN solution would change if predicted price trends were increased or decreased.

Primitive recreation - Those types of recreational activities associated with unroaded land -- e.g., hiking, backpacking, cross-country travel. (6)

Proclaimed land - Lands reserved from the Public Domain for National Forest purposes by presidential proclamation. (See also *Reserved Land*)

Program - Sets of activities or projects with specific objectives, defined in terms of specific results and responsibilities for accomplishments. (10)

Program Budget - A plan that allocates annual funds, work force ceilings, and targets among agencies. (10)

Program Budget Level - A single, comprehensive integrated program responsive to the Chief's direction that specifies a level of production attainable from a given investment of dollars and other resources. Each budget level represents a complete, full, and independent package within the criteria and constraints identified. (10)

Programmatic Memorandum of Agreement - An agreement between the USDA Forest Service, Pacific Northwest Region, the Oregon State Historic Preservation Office (SHPO), and the Advisory Council on Historic Preservation on the management of two types of cultural resource sites found on the Forest: Depression-era administrative structures and prehistoric lithic scatters.

Programmed harvest - The amount of timber on the Forest that is scheduled for harvesting. The programmed harvest is based on current demand, funding, and multiple-use considerations.

Project - An organized effort to achieve an objective identified by location, timing, activities, outputs, effects, and time period and responsibilities for executions. (10)

Project Design - The process of developing specific information necessary to describe the location, timing, activities, outputs, effects, accountability, and control of a project.

Public Involvement - A Forest Service process designed to broaden the information base upon which agency decisions are made by (1) informing the public about Forest Service activities, plan, and decisions, and (2) encouraging public understanding about and participation in the planning processes which lead to final decision making. (10)

Public issue - A subject or question of widespread public interest relating to management of the National Forest System. (1)

Public participation - Meetings, conferences, seminars, workshops, tours, written comments, responses to survey questionnaires, and similar activities designed and held to obtain comments from the public about Forest Service planning. (2)

Public Participation Activities - Meetings, conferences, seminars, workshops, tours, written comments, survey questionnaires, and similar activities designed or held to obtain comments from the general public and specific publics.

Q

Quality extensive management (QE) - Range management based on low operating and investment costs per acre. (3)

Quality intensive management (QI) - Range management to obtain a high production of livestock through the best techniques of range management. (3)

R

Range - Land producing native forage for animal consumption, and lands that are revegetated naturally or artificially to provide forage that is managed like native vegetation. (6)

Range allotment - An area designated for use of a prescribed number and kind of livestock under one management plan. (6)

Range Environmental Assessment (REA) - An environmental assessment to determine the condition of the range with regard to suitability for grazing, vegetative cover types, potential vegetative communities, condition of vegetation, soil stability, and forage production and utilization.

Rangeland - Land on which the climax vegetation (potential natural plant community) is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing and browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundra, and certain forb and shrub communities. It also includes areas seeded to native or adapted introduced species that are managed like native vegetation.

Range management - The art and science of planning and directing range utilization so as to secure sustained maximum production of livestock, milk, and/or cut forage, consistent with other uses and conserving natural resources. (3)

Raptors - Predatory birds, such as falcons, hawks, eagles, or owls.

Rate of return - The financial yield per unit cost determined as the rate of interest at which total discounted benefits equal total discounted costs. (Internal rate of return is a similar measure appropriate to the benefits and costs that affect private firms or individuals.) (10)

Real dollar value - A monetary value that compensates for the effects of inflation. (1)

Receipts - Those priced benefits for which money will actually be paid to the Forest Service: recreation fees, timber harvest, mineral leases and special use fees.

Receipt shares - The portion of receipts derived from Forest Service resource management that is distributed to State and county governments, such as the Forest Service 25-percent fund payments. (1)

Record of Decision - A document separate from but associated with an Environmental Impact Statement which states the decision, identifies all alternatives, specifying which were environmentally preferable, and states whether all practicable means to avoid environmental harm from the alternative have been adopted, and if not, why not. (40 CFR 1505.2)

Recreation capacity - The number of people that can take advantage of the recreation opportunity at any one time without substantially diminishing the quality of the experience or the biophysical resources. (2)

Recreation Information Management (RIM) - A computer-oriented system for the organization and management of information concerning recreation use, occupancy, and management of National Forest lands.

Recreation opportunity - The availability of choices for users to participate in the recreational activities they prefer within the settings they prefer.

Recreation Opportunity Spectrum (ROS) - A framework for stratifying and defining classes of outdoor recreation environments, activities, and experience opportunities. The settings, activities, and opportunities for obtaining experiences have been arranged along a continuum or spectrum divided into seven classes: Primitive, Semiprimitive Nonmotorized, Semiprimitive Motorized, Roaded Modified, Roaded Natural, Rural, Urban.

1. **Primitive** - Area is characterized by an essentially unmodified natural environment of fairly large size. Interaction between users is very low and evidence of other users is minimal. The area is managed to be essentially free from evidence of human-induced restrictions and controls. Motorized use within the area is not permitted.

2. **Semiprimitive Nonmotorized** - Area is characterized by a predominantly natural or natural-appearing environment of moderate to large size. Interaction between users is low, but there is often evidence of other users. The area is managed in such a way that minimum on-site controls and restrictions may be present, but would be subtle. Motorized recreation use is not permitted, but local roads used for other resource management activities may be present on a limited basis. Use of such roads is restricted to minimize impacts on recreational experience opportunities.

3. **Semiprimitive Motorized** - Area is characterized by a predominantly natural or natural-appearing environment of moderate to large size. Concentration of users is low, but there is often evidence of other users. The area is managed in such a way that minimum on-site controls and restrictions use of local primitive or collector roads with predominantly natural surfaces and trails suitable for motor bikes is permitted.

4. **Roaded Natural** - Area is characterized by predominantly natural-appearing environments with moderate evidence of the sights and sounds of man. Such evidence usually harmonizes with the natural environment. Interaction between users may be moderate to high, with evidence of other users prevalent. Resource modification and utilization practices are evident, but harmonize with the natural environment. Conventional motorized use is allowed and incorporated into construction standards and design of facilities.

Recreation Visitor Day (RVD) - A measure of recreation use, in which one RVD equals twelve visitor hours, which may be aggregated continuously, intermittently, or simultaneously by one or more persons. (2)

Recreational river - See *Wild and Scenic river*.

Reduced service management - Management of developed recreation facilities below optimum maintenance standards.

Reforestation - The natural or artificial restocking of an area with forest trees. (2)

Regeneration - The renewal of a tree crop, whether by natural or artificial means. Also, the young crop itself, which is commonly referred to as reproduction. (2)

Region - An area covered by a Regional guide. See FSM 1221.3 for organizational definitions. (10)

Regional Forester - The Forest Service official responsible for administering a single Region.

Regional Guide - The guide developed to meet the requirements of the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended. It guides all natural resource management activities, and establishes management standards and guidelines for the National Forest System lands within a given Region. It also disaggregates the assigned Regional RPA objectives to the Forests within that Region.

Regulations - Generally refers to the Code of Federal Regulations, Title 36, Chapter II, which covers management of the Forest Service. (2)

Rehabilitation - Action taken to restore, protect, or enhance site productivity, water quality, or other resource values over a period of time.

Release - Freeing trees from competition for light, water, and nutrients by removing or reducing the vegetation growth that is overtopping or closely surrounding them.

Removal cut (final cut) - The removal of the last seed bearers or shelter trees after regeneration is established under a shelterwood method. (6)

Renewable Resources - Resources that are possible to use indefinitely, when the use rate does not exceed the ability to renew the supply.

Renewable Resources Assessment - An appraisal of the Nation's renewable resources that recognizes their vital importance and the necessity for long-term planning and associated program development. The Assessment meets the requirements of Section 3 of the Resources Planning Act and includes analyses of present and anticipated uses, demands, and supplies of the renewable resources; a description of Forest Service programs and responsibilities; and a discussion of policy considerations, laws, and regulations.

Research Natural Area (RNA) - An area set aside by a public or private agency specifically to preserve a representative sample of an ecological community, primarily for scientific and educational purposes. In U.S.D.A. Forest Service usage, Research Natural Areas are areas designated to ensure representative samples of as many of the major naturally-occurring plant communities as possible. (6)

Reserved lands - Lands reserved from the public domain for National Forest purposes, and lands which are added to the National Forest System by exchange for reserved National Forest lands. (See *Proclaimed Land*)

Residual stand - The trees remaining standing after some activity such as selection cutting. (2)

Resource - Anything which is beneficial or useful - be it animal, vegetable, mineral, a location, a labor force, a view, an experience, etc. Resources, in the context of land use planning, thus vary from such commodities as timber and minerals to such amenities as scenery, scenic view points, or recreation opportunities. (6)

Resource allocation - The action of apportioning the supply of a resource to specific uses or to particular persons or organizations. (6)

Resource Allocation Model (RAM) - A mathematical model using linear programming which will allocate land to different management prescriptions and schedule implementation of those prescriptions simultaneously. The purpose of the model is to find a schedule and allocation that meets the goals of the Forest and optimizes some objective function, such as "minimize costs."

Resource Management Plan - A Plan developed prior to the Forest Plan that outlined the activities and projects for a particular resource element independently of considerations for other resources. Such Plans will be superseded by the Forest Plan.

Resource Planning Act (RPA) - The Forest and Rangeland Renewable Resources Planning Act of 1974. Also refers to the National Assessment and Recommended Program developed to fulfill the requirements of the act. (2)

Responsible Line Officer - The Forest Service employee who has the authority to select and/or carry out a specific planning action. (1)

Rest rotation - An intensive system of range management whereby grazing is deferred on various parts of the range during succeeding years, allowing the deferred part complete rest for one year. (6)

Retention - See *Visual quality objective*.

Returns to Counties - The portion of receipts derived from Forest Service resource management that is distributed to State and county governments such as the Forest Service 25 percent fund payments.

Right-of-way (R/W) - An accurately located strip of land with defined width, point of beginning, and point of ending; the area within which the user has authority to conduct operations approved or granted by the landowner in an authorizing document, such as a permit, easement, lease, license, or Memorandum of Understanding. (6)

Riparian - Pertaining to areas of land directly influenced by water. Riparian areas usually have visible vegetative or physical characteristics reflecting this water influence. Stream sides, lake borders, or marshes are typical riparian areas. (3)

Riparian Area - Geographically delineated areas, with distinctive resource values and characteristics, that are comprised of aquatic and riparian ecosystems.

Riparian ecosystem - A transition between the aquatic ecosystem, and the adjacent upland terrestrial ecosystem. Identified by soil characteristics and distinctive vegetation communities that require free or unbound water.

Road - A general term denoting a way for purposes of travel by vehicles greater than 40 inches in width.

1. **Forest Arterial Road.** Provides services to large land areas and usually connects with public highways or other forest arterial roads to form an integrated network of primary travel routes. The location and standard are often determined by a demand for maximum mobility and travel efficiency rather than specific resource management service. It is usually developed and operated for long-term land and resource management purposes and constant service. (10)

2. **Forest Collector Road.** Serves smaller land areas than a forest arterial road and is usually connected to a forest arterial or public highway. Collects traffic from forest local roads and/or terminal facilities. The location and standard are influenced by both long-term multiresource service needs as well as travel efficiency. May be operated for either constant or intermittent service, depending on land use and resource management objectives for the area served by the facility. (10)
3. **Forest Local Road.** Connects terminal facilities with forest collector or forest arterial roads or public highways. The location and standard are usually controlled by specific resource activity requirements rather than travel efficiency needs. (10)

Roaded modified (RM) - A classification of the Recreation Opportunity Spectrum that characterizes a predominately altered environment, allowing for noticeable to strongly-evident management activity.

Roaded natural (RN) - A classification of the Recreation Opportunity Spectrum that characterizes a predominately natural environment with evidence of moderate permanent alterations and resource utilization. Evidence of the sights and sounds of people is moderate, but in harmony with the natural environment. Opportunities exist for both social interaction and moderate isolation from the sights and sounds of people. (2)

Roadless Area - Areas studied during the Roadless Area Review and Evaluation process (RARE II) which are roadless and at least 5,000 acres in size.

Roadless Area Review and Evaluation II (RARE II) - The national inventory of roadless and undeveloped areas within the National Forest and Grasslands. This refers to the second such assessment, which was documented in the Final Environmental Impact Statement of the Roadless Area Review and Evaluation, January 1979. (2)

Rotation - Planned number of years between the formation of a generation of trees and its final harvest at a specified stage of maturity. Appropriate for even-aged management only. (6)

Roundwood products - Logs, bolts, or other round sections cut from trees.

Rural - A Recreation Opportunity Spectrum classification for areas characterized by a substantially modified natural environment. Sights and sounds of people are evident. Renewable resource modification and utilization practices enhance specific recreation activities or provide soil and vegetative cover protection.

S

Sale preparation costs - Costs associated with preparing a timber harvest on Forest Service lands for sale to the public; usually include all administrative costs for developing sale layout, writing an Environmental Assessment and selling the timber sale.

Sale schedule - The quantity of timber planned for sale by time period, from the area of suitable land covered by a Forest plan. The first period, usually a decade, of the selected sale schedule provides the allowable sale quantity. Future periods are shown to establish that long-term sustained yield will be achieved and maintained. (1) For planning purposes, the sale schedule and the allowable sale quantity are synonymous for all periods or decades over the planning horizon. (1)

Salvage cuttings - Intermediate cuttings made to remove trees that are dead or in imminent danger of being killed by injurious agents. (10)

Sanitation cuttings - Intermediate cuttings made to remove dead, damaged, or susceptible trees to prevent the spread of pests or pathogens. (10)

Sanitation-salvage treatment - See Salvage cutting; Sanitation cutting.

Satisfactory Range Condition - On suitable range, forage condition is at least fair, with stable trend, and allotment is not classified PC (basic resource damage) or PD (other resource damage).

PC (Basic Resource Damage)

Allotments will be classified as PC when analysis or evaluation indicates that one or more of the following conditions exist and livestock use on the allotment is or has been a major factor contributing to this condition.

- a. Maximum summer water temperatures are elevated above State Standards or other approved criteria on SMU class I or II streams and this is largely due to the loss of shade-producing vegetation in the allotment.
- b. Management-induced instability exceeds 20 percent of the total miles of stream (SMU classes I-IV) in an allotment.
- c. Gully development of sufficient size to lower the seasonally saturated zone and change the plant community type is occurring.
- d. Soil condition rating on 25 percent or more of Key Areas is rated poor or very poor.

PD (Other Resource Damage)

These allotments may or may not have approved allotment management plans (AMP's), but adverse impacts on resources other than the basic soil and water resources are occurring. These impacts are the result of resource management objectives not being met. An allotment will be classified as PD when 10 percent or more of its area meets this criteria. Damage to vegetation is based on use in excess of that planned.

Sawtimber - Trees containing at least one 12-foot sawlog or two noncontiguous 8-foot logs, and meeting regional specifications for freedom from defect. Softwood trees must be at least 9 inches in diameter and hardwood trees 11 inches in diameter at breast height.

Scarified - Land in which the topsoil has been broken up or loosened in preparation for regenerating by direct seeding or natural seedfall. Also refers to ripping or loosening road surfaces to a specified depth for obliteration or "putting a road to bed." (3)

Scenic areas - Places of outstanding or matchless beauty which require special management to preserve these qualities. They may be established under 36 CFR 294.1 whenever lands possessing outstanding or unique natural beauty warrant this classification. (6)

Scenic River Areas - See *Wild and Scenic river*.

Scheduled timber harvests - Volumes and acres programmed for harvest which are within the allowable sale quantity. This does not include salvage and sanitation harvesting.

Scoping process - A part of the National Environmental Policy Act (NEPA) process; early and open activities used to determine the scope and significance of the issues, and the range of actions, alternatives, and impacts to be considered in an Environmental Impact Statement. (40 CFR 1501.7)

Second growth - Forest growth that has become established following some interference, such as cutting, serious fire, or insect attack, with the previous Forest crop. (6)

Sediment - Earth material transported, suspended, or deposited by water. (6)

Seed tree cutting - Removal in one cut of the mature timber from an area, except for a small number of seed bearers left singly or in small groups. (3)

Seedlings and saplings - Live trees less than five inches in diameter at breast height. (See also *Size class*.) (3)

Selection cutting - The annual or periodic removal of trees (particularly mature trees), individually or in small groups, from an uneven-aged forest, to realize the yield and establish a new crop of irregular constitution. (3)

Semiprimitive motorized (SPM) - A classification of the Recreation Opportunity Spectrum, characterized by a predominantly unmodified natural environment in a location that provides good to moderate isolation from sights and sounds of people, except for those facilities/travel routes sufficient to support motorized recreational travel opportunities which present at least moderate challenge, risk, and a high degree of skill testing. (2)

Semiprimitive nonmotorized (SPNM) - A classification of the Recreation Opportunity Spectrum, characterized by a predominately unmodified natural environment of a size and location that provides a good to moderate opportunity for isolation from sights and sounds of people. The area is large enough to permit overnight foot travel within the area, and presents opportunity for interaction with the natural environment with moderate challenge, risk, and use of a high degree of outdoor skills. (2)

Sensitive species - Plant or animal species which are susceptible or vulnerable to activity impacts or habitat alterations. Those species that have appeared in the Federal Register as proposed for classification or are under consideration for official listing as endangered or threatened species, that are on an official State list, or that are recognized by the Regional Forester as needing special management to prevent placement on Federal or State lists. (2)

Sensitivity analysis - A determination of the effects of varying the level of one or more factors, while holding the other factors constant. (6) (10)

Sensitivity level - A measure of people's concern for the scenic quality of the National Forests. Three sensitivity levels are employed, each identifying a different level of user concern for the visual environment.

- Level 1 - Highest sensitivity
- Level 2 - Average sensitivity
- Level 3 - Lowest sensitivity (2)

Separate Suitability Components (SSC lands) - Those forested lands tentatively suitable for timber production that grow less than 20 cubic feet per acre per year of timber but have greater than ten percent occupancy (trees cover more than ten percent of the acre).

Sequential Upper and Lower Bounds - A FORPLAN term referring to the constraint that sets upper and lower limits by which harvest levels can increase or decrease from decade to decade. This constraint constitutes a departure from nondeclining flow and allows the harvest to rise or fall by decade according to the bounds that are set. (See *Constraint*.)

Seral - A biotic community which is a developmental, transitory stage in an ecologic succession. (6)

Shelterwood - The cutting method that describes the silvicultural system in which, in order to provide a source of seed and/or protection for regeneration, the old crop (the shelterwood) is removed in two or more successive shelterwood cuttings. The first cutting is ordinarily the seed cutting, though it may be preceded by a preparatory cutting, and the last is the final cutting. Any intervening cutting is termed removal cutting. An even-aged stand results. (3)

Silvicultural examination - The process used to gather the detailed in-place field data needed to determine management opportunities and direction for the timber resource within a small subdivision of a Forest area, such as a stand.

Silvicultural system - A management process whereby Forests are tended, harvested, and replaced, resulting in a Forest of distinctive form. Systems are classified according to the method of carrying out the fellings that remove the mature crop and provide for regeneration and according to the type of forest thereby produced. (3) (1)

Silviculture - The art and science of controlling the establishment, composition, and growth of forests. (2)

Single-tree selection - See *Individual (single) tree selection*.

Site index - A numerical evaluation of the quality of land for plant productivity, (6) . . .based on the height of dominant trees in a stand at an arbitrarily chosen age. (3)

Site preparation - 1) An activity (such as prescribed burning, disking, and tilling) performed on a reforestation area, before introduction of reforestation, to ensure adequate survival and growth of the future crop; or 2) manipulation of the vegetation or soil of an area prior to planting or seeding. The manipulation follows harvest, wildfire, or construction in order to encourage the growth of favored species. Site preparation may include the application of herbicides; burning, or cutting of living vegetation that competes with the favored species; tilling the soil; or burning of organic debris (usually logging slash) that makes planting or seeding difficult.

Site productivity - Production capability of specific areas of land.

Size class - For the purposes of Forest planning, size class refers to the intervals of tree stem diameter used for classification of timber in the Forest Plan data base.

seedling/sapling = less than five-inch diameter
 pole/sapling or pole timber = five-inch to nine-inch diameter
 sawtimber = greater than nine-inch diameter

Skidding - A general term for hauling loads by sliding, not on wheels, as developed originally from stump to roadside, deck, skidway, or other landing. (3)

Skyline Logging - A system of cable logging in which all or part of the weight of the logs is supported during yarding by a suspended cable.

Slash - The residue left on the ground after tree felling and tending, and/or accumulating there as a result of storm, fire, girdling or poisoning. It includes unutilized logs, uprooted stumps, broken or uprooted stems, the heavier branchwood, etc. (3)

Small game - Birds and small mammals normally hunted or trapped. (2)

Snag - A standing dead tree.

Socioeconomic - Pertaining to, or signifying the combination or interaction of social and economic factors. (2)

Softwoods - Coniferous trees, usually evergreen, having needles or scalelike leaves.

Soil - The portion of the earth's surface consisting of disintegrated rock and humus. (7)

Soil productivity - The capacity of a soil to produce a specific crop such as fiber or forage under defined levels of management. Productivity is generally dependent on available soil moisture and nutrients, and length of growing season.

Soil resource inventory - See *Soil surveys*.

Soil surveys - Systematic examinations of soils in the field and in laboratories; their description and classification; the mapping of kinds of soil; the interpretation according to their adaptability for various crops, grasses, and trees; their behavior under use or treatment for plant production or for other purposes; and their productivity under different management systems. (6)

Soil texture - The relative proportions of the various soil separates in a soil, described by the classes of soil texture. Twelve basic soil texture classes are recognized, such as "loam." The textural classes may be modified by the addition of suitable adjectives when coarse fragments are present in substantial amounts; for example, "stony loam."

Special Interest Areas - Areas managed to make recreation opportunities available for the understanding of the earth and its geological, historical, archeological, botanical, and memorial features. (6)

Special Management Areas (SMA) - Areas of unusual public interest or other significance, e.g.; wilderness, primitive areas, scenic areas, or archeological areas. SMA's do not require formal designation, however, Special Interest Areas do. (10)

Special Use Permit - A permit issued under established laws and regulations to an individual, organization, or company for occupancy or use of National Forest land for some special purpose.

Stand (tree stand, timber stand) - An aggregation of trees or other vegetation occupying a specific area and sufficiently uniform in species composition, age arrangement, and condition as to be distinguishable from the forest or other vegetation or land cover on adjoining areas. (2)

Stand diversity - Any attribute that makes one timber stand biologically or physically different from other stands. This difference can be measured by, but not limited to: different age classes; species; densities; or non-tree floristic composition.

Stand examination surveys - Procedures to collect data on Forest stands.

Standard - A statement which describes a condition when a job is done properly. Standards show how well something should be done, rather than what should be done. (6)

Standards and Guidelines - Principles specifying conditions or levels of environmental quality to be achieved.

Stocking - The degree of occupancy of land by trees as measured by basal area or number of trees and as compared to a stocking standard; that is, the basal area or number of trees required to fully use the growth potential of the land.

Stream Blockage - Accumulation of soil, rock, and organic material deposited in a stream channel by landslides that prevent fish from moving upstream.

Stream Buffer - Vegetation left along a stream channel to protect the channel or water from the effects of logging, road building, or other management activity. (see vegetation leave area)

Stream class - Classification of streams based on the present and foreseeable uses made of the water, and the potential effects of on-site changes on downstream uses. Four classes are defined:

Class I - Perennial or intermittent streams that: provide a source of water for domestic use; are used by large numbers of fish for spawning, rearing or migration; and/or are major tributaries to other Class I streams.

Class II - Perennial or intermittent streams that: are used by moderate though significant numbers of fish for spawning, rearing or migration; and/or may be tributaries to Class I streams or other Class II streams.

Class III - All other perennial streams not meeting higher class criteria.

Class IV - All other intermittent streams not meeting higher class criteria. (10)

Streamflow - The flow of water, generally with its suspended load, down a well-defined water course. (6)

Streamside Management Unit (SMU) - An area of varying width adjacent to a stream where practices that might affect water quality, fish, and other aquatic resources are modified to meet water quality goals, for each class of stream. The width of this area will vary with the management goals for each class of stream, characteristics of the stream and surrounding terrain, and the type and extent of the planned activity.

Stream Structure - The arrangement of logs, boulders, and meanders which modify the flow of water, thereby causing the formation of pools and gravel bars in streams. Generally, there is a direct relationship between complexity of structure and fish habitat. Complex structure is also an indication of watershed stability.

Stumpage (stumpage value) - The value of timber as it stands uncut, in terms of an amount per unit of volume. (6)

Substantive comment - A comment that provides factual information, professional opinion, or informed judgment germane to the action being proposed. (10)

Successional stage - A stage or recognizable condition of a plant community that occurs during its development from bare ground to climax; for example, coniferous forests in the Blue Mountains progress through six recognized stages: grass-forb; shrub-seedling; pole-sapling timber; young timber; mature timber; old-growth timber. (2)

Suitability - The appropriateness of applying certain resource management practices to a particular area of land, as determined by an analysis of the economic and environmental consequences and the alternative uses foregone. A unit of land may be suitable for a variety of individual or combined management practices. (1) (2) (FSM 1905)

Suitable Forest land - Land to be managed for timber production on a regulated basis.

Super pits - Quarry sites that initially contain at least 100,000 cubic yards of better-than-average quality road-surfacing material, usually basalt or andesite.

Supply - The amount of an output that producers are willing to provide at the specified price, time period, and condition of sale.

Supply Schedule (Curve) - A schedule of amounts of an output that producers are willing to provide at a range of prices, at a given point in time and condition of sale. (See Price-Quantity Relationship.)

Suppression - The process of extinguishing or confining fire. (2)

Sustained-Yield of Products and Services - The achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the National Forest System without impairment of the productivity of the land. (1) (6)

T

Technology change - A change in the relationship between inputs and outputs in a production process resulting from the implementation of new technology, or a new application of existing technology. (10)

Tentatively suitable Forest land - Forest land that is producing or is capable of producing crops of industrial wood and: (a) has not been withdrawn by Congress, the Secretary, or the Chief; (b) existing technology and knowledge is available to ensure timber production without irreversible damage to soils productivity, or watershed conditions; (c) existing technology and knowledge, as reflected in current

research and experience, provides reasonable assurance that it is possible to restock adequately within five years after final harvest; and (d) adequate information is available to project responses to timber management activities.

The Nature Conservancy (TNC) - A private organization whose primary function consists of the acquisition of land which The Nature Conservancy believes should be under management by a public agency. The land usually has some specific environmental or conservation value attached to it; such as a piece of land which fits one of the ecological niches identified as needing to be included in the Research Natural Area program, or has some unique values for wildlife management.

Thermal cover - Cover used by animals to ameliorate effects of weather.

Thinning - A felling made in an immature stand primarily to maintain or accelerate diameter increment and also to improve the average form of the remaining trees without permanently breaking the canopy. An intermediate cutting. (3)

Threatened and Endangered (T&E) species - See *Threatened*; see *Endangered*.

Threatened species - Those plant or animal species likely to become endangered species throughout all or a significant portion of their range within the foreseeable future. (See also *Endangered species*.) (2)

Tiering - Refers to the coverage of general matters in broader environmental impact statements (such as National program or policy statements) with subsequent narrower statements or environmental analyses (such as Regional or Basin-wide program statements, or ultimately, site-specific statements) incorporating, by reference, the general discussions and concentrating solely on the issues specific to the statement subsequently prepared. (40 CFR 1508.28)

Timber classification - Forest land is classified under each of the land management alternatives according to how it relates to the management of the timber resource. The following are definitions of timber classifications used for this purpose.

1. *Nonforest*--Land that has never supported forests and land formerly forested where use for timber production is precluded by development or other uses.
2. *Forest*--Land at least 10-percent stocked (based on crown cover) by forest trees of any size, or formerly having had such tree cover and not currently developed for nonforest use.
3. *Suitable*--Commercial forest land identified as appropriate for timber production in the forest planning process.
4. *Unsuitable*--Forest land withdrawn from timber utilization by statute or administrative regulation (for example, wilderness) or identified as not appropriate for timber production in the forest planning process.

Timber harvest schedule - See *Sale schedule*.

Timber Management Resource Plan (TM Plan) - A functional resource plan completed in 1979 which established a sale volume to be sold each year based upon an analysis of the most recent resource inventories. This plan was an integrated plan which considered implications to other resources on the Forest.

Timber production - The purposeful growing, tending, harvesting, and regeneration of regulated crops of trees to be cut into logs, bolts, or other round sections for industrial or consumer use. For purposes of Forest planning, the term "timber production" does not include production of fuelwood or harvest of unsuitable lands. (1) (2)

Timber Sale Program Quantity - The volume of timber planned for sale during the first decade of the planning horizon. It includes the allowable sale quantity (chargeable volume) and any additional material (nonchargeable volume) planned for sale. Expressed as the average for the first decade.

Timber stand improvement (TSI) - Measures such as thinning, pruning, release cutting, prescribed fire, girdling, weeding, or poisoning of unwanted trees aimed at improving the growing condition of the remaining trees. (2)

Topography - The configuration of a surface including its relief, elevation, and the position of its natural and human-created features. (6)

Total Suspended Particulates (TSP) - Any finely divided material (solid or liquid) that is airborne with an aerodynamic diameter smaller than a few hundred micrometers.

Tractor logging - Any logging method which uses a tractor as the motive power for transporting logs from the stumps to a collecting point--whether by dragging or carrying the logs. (3)

Tradeoff - The combination of benefits and costs which are gained and lost in switching between alternative courses of action. Trade-offs include only those portions of benefits and costs which are not common to all alternative courses of action under consideration. (6)

Transitory range - Land that is suitable for grazing use of a nonenduring nature over a period of time; often found in the openings created by timber harvesting activities. For example, on particularly disturbed lands, grass may cover the area for a period of time before being replaced by trees or shrubs not suitable for forage. (6)

Turbidity - The degree of opaqueness, or cloudiness, produced in water by suspended particulate matter, either organic or inorganic. Measured by light filtration or transmission and expressed in Jackson Turbidity Units (JTU's).

U

Understory - The trees and other woody species growing under a more-or-less continuous cover of branches and foliage formed collectively by the upper portion of adjacent trees and other woody growth. (6)

Undeveloped Area - Portion of the National Forest that is essentially unroaded.

Uneven-aged Management - The application of a combination of actions needed to simultaneously maintain continuous high-forest cover, recurring regeneration of desirable species, and the orderly growth and development of trees through a range of diameter or age classes to provide a sustained yield of forest products. Cutting is usually regulated by specifying the number or proportion of trees of particular sizes to retain within each area, thereby maintaining a planned distribution of size classes. Cutting methods that develop and maintain uneven-aged stands are single-tree selection and group selection. (1)

Uneven-aged silviculture systems - The combination of actions that result in the creation of forests or stands of trees, in which trees of several or many ages grow together. Cutting methods that develop and maintain uneven-aged stands are individual tree and group selecting cutting methods:

Individual tree selection cutting - The removal of selected trees of all size classes on an individual basis.

Group selection cutting - The removal of all trees in groups for regeneration purposes. The size of the group will be small enough in area that all subsequent regeneration will be influenced by the surrounding uncut stand. Cuts are generally .25 - 2.0 acres in size.

Unplanned ignition - A fire started at random by either natural or human causes, or a deliberate incendiary fire.

Unsatisfactory Range Condition - Allotment does not meet criteria for satisfactory condition. (See Satisfactory Range condition.)

Utility corridor - A strip of land, up to approximately 600 feet in width, designated for the transportation of people, energy, commodities, and communications by: railroad, state highway, electrical power transmission (66 KV and above), and/or oil, gas, and coal slurry pipelines 10 inches in diameter and larger; and telecommunication cable and electronic sites for interstate use. (1)

Utilization standards - Standards guiding the projection of timber yields and the use and removal of timber. The standards are described in terms of minimum diameter at breast height, minimum length, and percent soundness of the wood, as appropriate. (1)

V

Variety Classes - Variety Classes are obtained by classifying the landscape into different degrees of variety. This determines those landscapes which are most important and those which are of lesser value from the standpoint of scenic quality.

The classification is based on the premise that all landscapes have some value, but those with the most variety or diversity have the greatest potential for high scenic value.

There are three variety classes which identify the scenic quality of the natural landscape:

- Class A - Distinctive
- Class B - Common
- Class C - Minimal

Vegetation Leave Area - Area of land in which vegetation is left undisturbed in order to provide shade and organic debris to streams, or to prevent the acceleration of natural erosion processes. No regulated timber harvest is planned in these areas.

Vegetative management - Activities designed primarily to promote the health of the crop forest cover for multiple-use purposes.

Vertical relief - A contour variation of the land surface perpendicular in relation to the surrounding land. (3) (4)

Viable Population - A population which has adequate numbers and dispersion of reproductive individuals to ensure the continued existence of the species population on the planning area. (FSM 1905)

Viewshed - Portion of the Forest that is seen from a major travel route, or high use location.

Visual absorption capacity (VAC) - The physical capability of the land to support management activities without significantly affecting its visual character. Rated as high, moderate, and low.

- HIGH (H) - High visual capability to absorb change.
- MODERATE (M) - Moderate visual capability to absorb change.
- LOW (L) - Low visual capability to absorb change.

Visual quality objective (VQO) - Categories of acceptable landscape alteration measured in degrees of deviation from the natural-appearing landscape.

Preservation (P) - Ecological changes only.

Retention (R) - Management activities should not be evident to the casual Forest visitor.

Partial Retention (PR) - Management activities remain visually subordinate to the characteristic landscape.

Modification (M) - Management activities may dominate the characteristic landscape but must, at the same time, follow naturally established form, line, color, and texture. It should appear as a natural occurrence when viewed in foreground or middleground.

Maximum Modification (MM) - Human activity may dominate the characteristic landscape, but should appear as a natural occurrence when viewed as background.

Enhancement - A short-term management alternative which is done with the express purpose of increasing positive visual variety where little variety now exists. (2)

Visual resource - The composite of basic terrain, geologic features, water features, vegetative patterns, and land use effects that typify a land unit and influence the visual appeal the unit may have for visitors. (2)

W

Water rights - Rights to divert and use water or to use it in place.

Water yield - The measured output of the Forest's streams. (6)

Watershed - The entire land area that contributes water to a drainage system or stream. (6)

Watershed Impact Area - Areas within a watershed that are being affected by harvesting, road building, etc. Impact areas are limited to a percent of the total watershed area by the Standards and Guidelines in Appendix D of the DEIS.

Waterside Management Unit (WMU) - See *Streamside Management Unit*. Identical to SMU, except applies to standing water, i.e., lakes, ponds, reservoirs, etc., rather than streams.

Wetlands - Areas that are inundated by surface or ground water often enough to support, and usually do support, primarily plants and animals that require saturated or seasonally saturated soil conditions for growth and reproduction. (E.O. 11990)

Wild and Scenic river - Those rivers or sections of rivers designated as such by congressional action under the 1968 Wild and Scenic Rivers Act, as supplemented and amended, or those sections of rivers designated as wild, scenic, or recreational by an act of the legislature of the state or states through which they flow. Wild and scenic rivers may be classified and administered under one or more of the following categories:

1. **Wild River Areas** - Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted.
2. **Scenic River Areas** - Those rivers or sections of rivers that are free of impoundments, with watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.
3. **Recreational River Areas** - Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past. (2) (6)

Wilderness - Areas designated by congressional action under the 1964 Wilderness Act. Wilderness is defined as undeveloped federal land retaining its primeval character and influence without permanent improvements or human habitation. Wildernesses are protected and managed to preserve their natural conditions, which generally appear to have been affected primarily by the forces of nature with the imprint of human activity substantially unnoticeable; have outstanding opportunities for solitude or a primitive and unconfined type of recreation; are of sufficient size to make practical their preservation,

enjoyment, and use in an unimpaired condition; and may contain features of scientific, educational, scenic, or historical value as well as ecologic and geologic interest. (2)

Wildlife and Fish User Day - Twelve visitor hours which may be aggregated continuously, intermittently, or simultaneously by one or more persons.

Wildfire - Any wildland fire that is not a prescribed fire. (See also *Prescribed fire*.) (2)

Withdrawal - A legislative or administrative order removing specific land areas from availability for certain uses.

Wood fiber production - The growing, tending, harvesting, and regeneration of harvestable trees.

Woody Material - Organic materials necessary for stream channel stability and maintenance of watershed condition. It includes large logs and root wads.

Working circle (WC) - A geographic division of the Forest created for administrative or marketing purposes. In this document, the area that is not part of the Lakeview Federal Sustained Yield Unit is sometimes referred to as the Klamath Basin Working Circle and the Lakeview Unit may be referred to as the Lakeview Working Circle. (3)

Working group - A term used for planning purposes to identify and group the major commercial tree species harvested from the Forest. The Fremont National Forest recognizes three working groups: the Pine-Associated working group includes stands of white fir with inclusions of ponderosa pine, incense cedar, lodgepole pine, western white pine, or sugar pine; the Ponderosa Pine working group includes stands which are predominately ponderosa pine; the Lodgepole Pine working group is made up of stands dominated by lodgepole pine. These vegetative classifications are based on the vegetative potential of a site and not necessarily the actual vegetative occupancy of the site. Working groups are further stratified by productivity potential, such as "ponderosa pine-high" and "ponderosa pine-low".

X, Y, Z

Xeric - A dry soil moisture regime. Some moisture is present but does not occur at optimum levels for plant growth. Irrigation or summer fallow is often necessary for crop production. (3)

Yarding - Hauling timber from the stump to a collection point. (2)

Yield tables - Tables that estimate the level of outputs that would result from implementing a particular activity. Usually referred to in conjunction with FORPLAN input or output. Yield tables can be developed for timber volumes, range production, soil and water outputs, and other resources.

Zone of influence - The geographic area whose social, economic and/or environmental condition is significantly affected by changes in Forest resource production or management.

